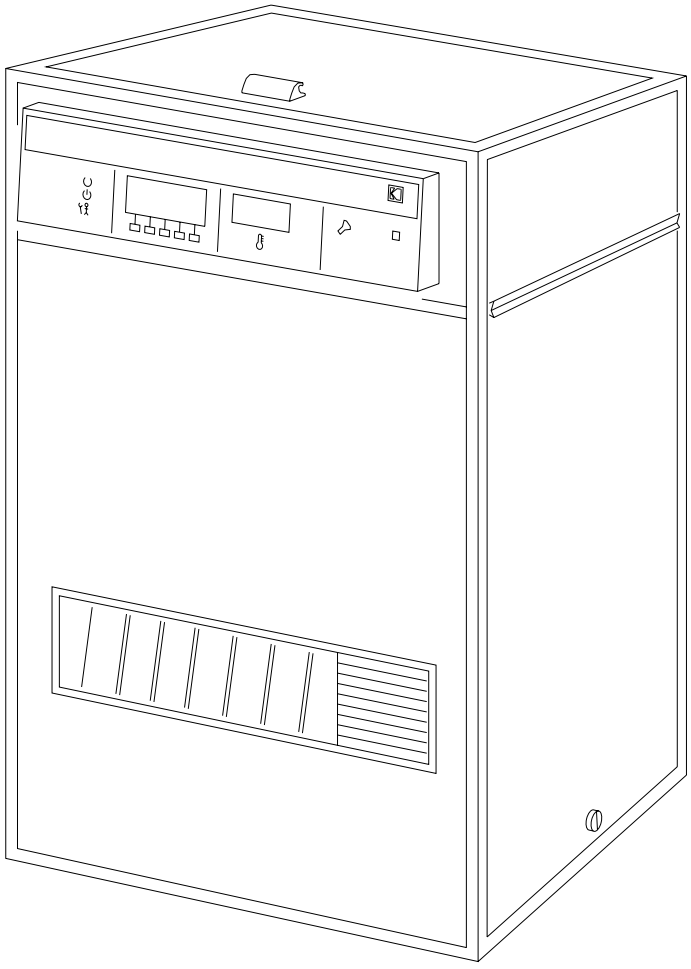
Publication No. 636739
1/91

# SERVICE MANUAL

# for the

# *Kodak X-Omat* 460 RA Processor



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**CAUTION**

This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

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# SECTION 1
# Introduction

**Required Tools**

- Carpenter's LEVEL--approximately 30 cm (12 inches), TL-1434.
- GROUNDING KIT--TL-3346
- AIR METER--TL-2431
- CLAMP--TL-2170
- DIAGNOSTIC DISK--TL-4404
- CABLE from the PORTABLE COMPUTER to the PROCESSOR--TL-4391
- SURFACE MOUNT SOCKET CHIP REMOVAL TOOL (LANGUAGE, MAIN PROGRAM, and BOOT STRAP CHIPS)--TL-4398
- SURFACE MOUNT SOCKET CHIP REMOVAL TOOL (MICROPROCESSOR CHIP)--TL-4397
- MAGNETIC POWER WARNING SIGN--TL-1926
- JUMPER--TL-4413

## Electrostatic Discharge

ESD--electrostatic discharge--is a primary source of

- product downtime,
- lost productivity,
- costly repairs.

While we cannot even feel a static charge of less than 3,500 volts, as few as 30 volts can damage or destroy essential components in the electronic equipment upon which we rely.

As technology continues to advance, these advanced components will be even more vulnerable to ESD destruction.

The conclusion is clear. To take charge of productivity and profitability, we must reduce ESD.

Effective ESD control requires the following things.

### Awareness

*Everyone* in your organization needs to be aware of ESD, because partial ESD control is no ESD control at all. Everyone needs to remember that--

- ESD is a primary source of frustrating equipment failures and intermittent malfunctions.
- ESD affects productivity *and* profitability.
- ESD can be controlled.

### Action

To eliminate ESD, you must take action. And that means *everyone*--from senior management to the evening security crew.

- When repairing or maintaining electronic equipment, work at ESD-protected sites and always wear grounding straps.
- Keep static generators like plastic trash bags away from sensitive electronic components.
- See the following paragraphs for special tips on how to control ESD.

### Every Day

**[1]** **Do not** store trash near static-sensitive equipment.

**[2]** **Do not** place plastic materials near electronic components. Trashcan liners and plastic foam cups generate static electricity that damages or destroys electronic components.

**[3]** **Look for the label.** Static-sensitive components are marked with bright graphic labels. Follow label directions.

**[4]** **Spray the carpet.** Walking over a carpet is a major cause of ESD. In low-humidity environments, periodically spray carpets with an anti-static preparation, available at local stores.

### During Maintenance and Repair

**[5]** **Wear a grounding strap** when handling static-sensitive components. Always make certain that the clip is attached to a correctly grounded, unpainted surface.

**[6]** **Use a portable grounding mat** if you cannot repair components at an ESD-protected workstation. (Kodak's Customer Equipment Services Division can assist you in setting up ESD-protected workstations.)

**[7]** **Use protective packaging** when transporting components from one area to another. Transparent antistatic bags, available from a variety of manufacturers, shield components from damage.

Many of the following procedures require that the processor be deenergized before the procedure is begun. Many of the procedures also require that the TOP COVER and 6 ACCESS PANELS be removed from the processor before the procedure is begun. For your convenience, illustrations showing the location of the TOP COVER, ACCESS PANELS, MAIN CIRCUIT BREAKER, RACKS, CROSSOVERS, and other major components appear on the following pages.

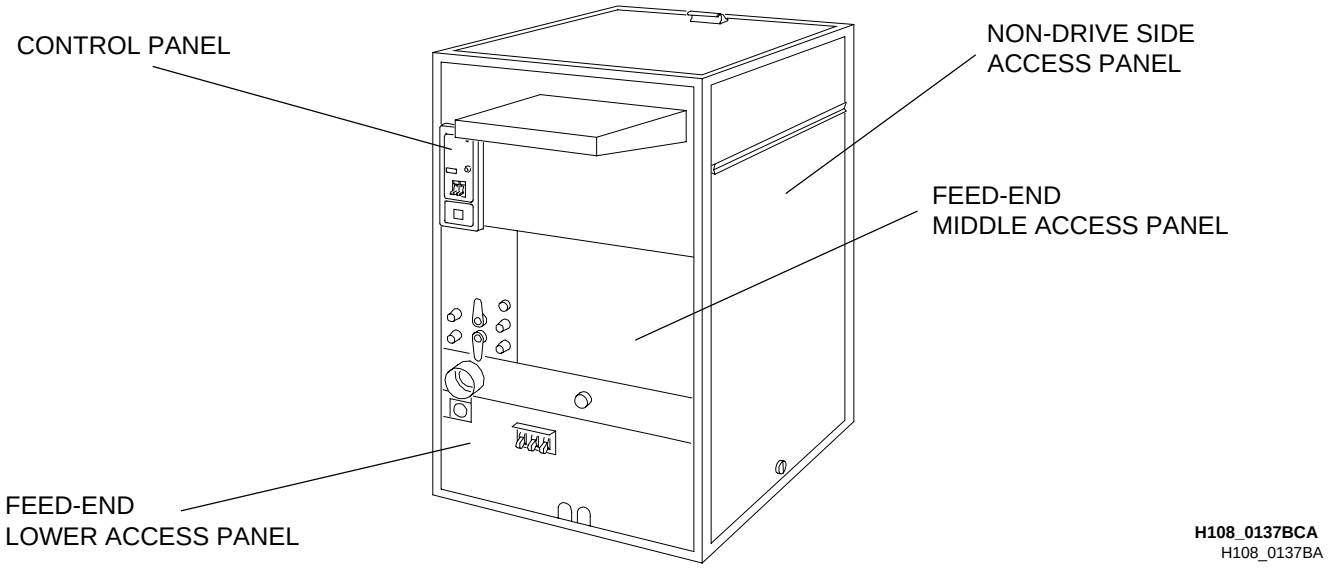


**Figure 1-1 Feed-End View of Processor**

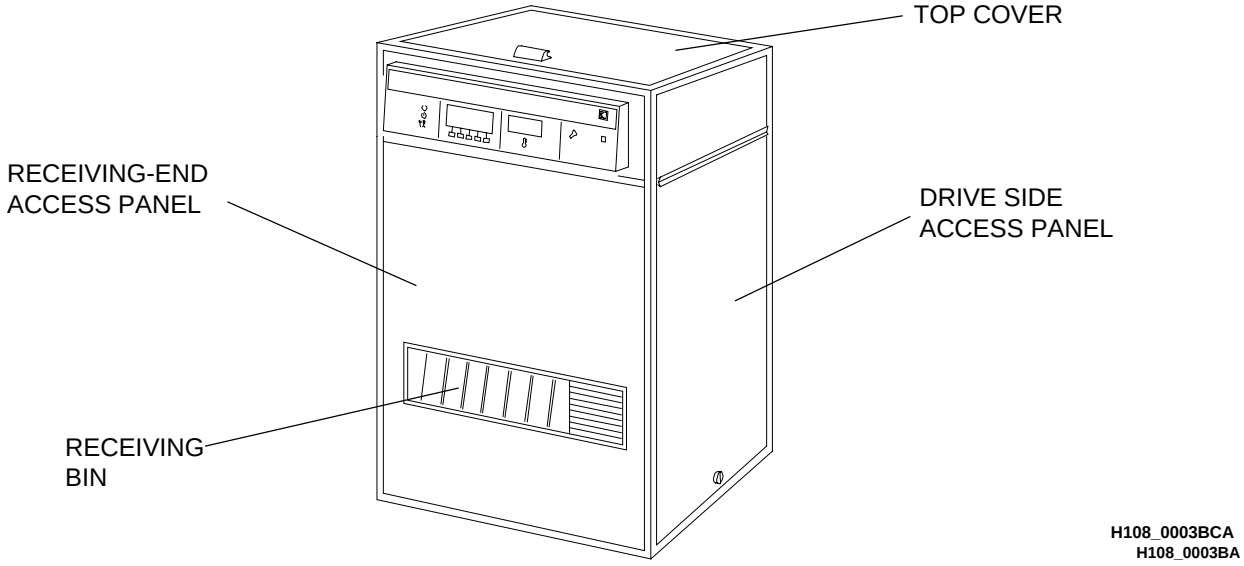


**Figure 1-2 Receiving-End View of Processor**

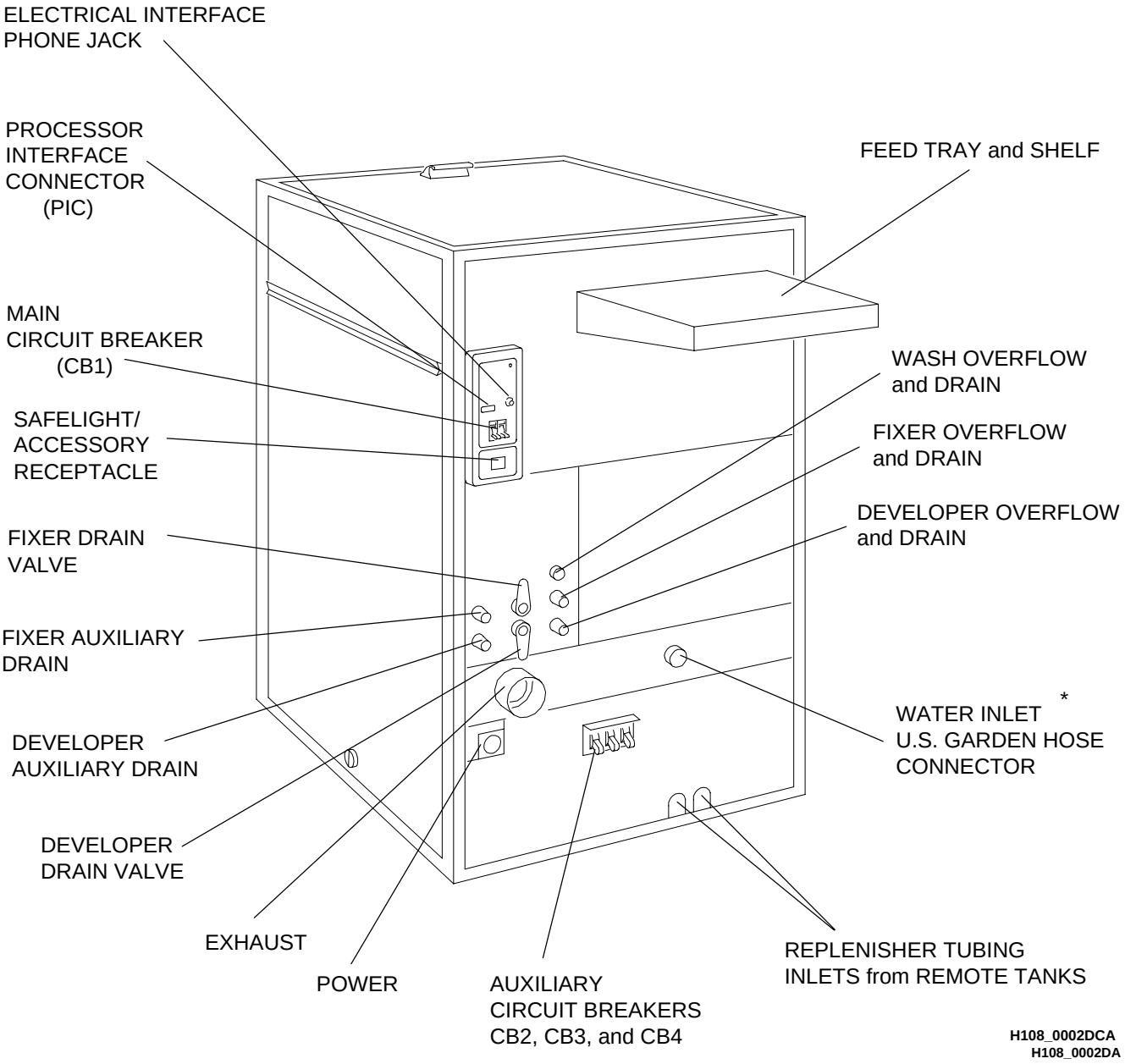


**Figure 1-3 Major Components of Processor**

*** Supplied in the pre-pack is an adapter for ½ inch NPT.**

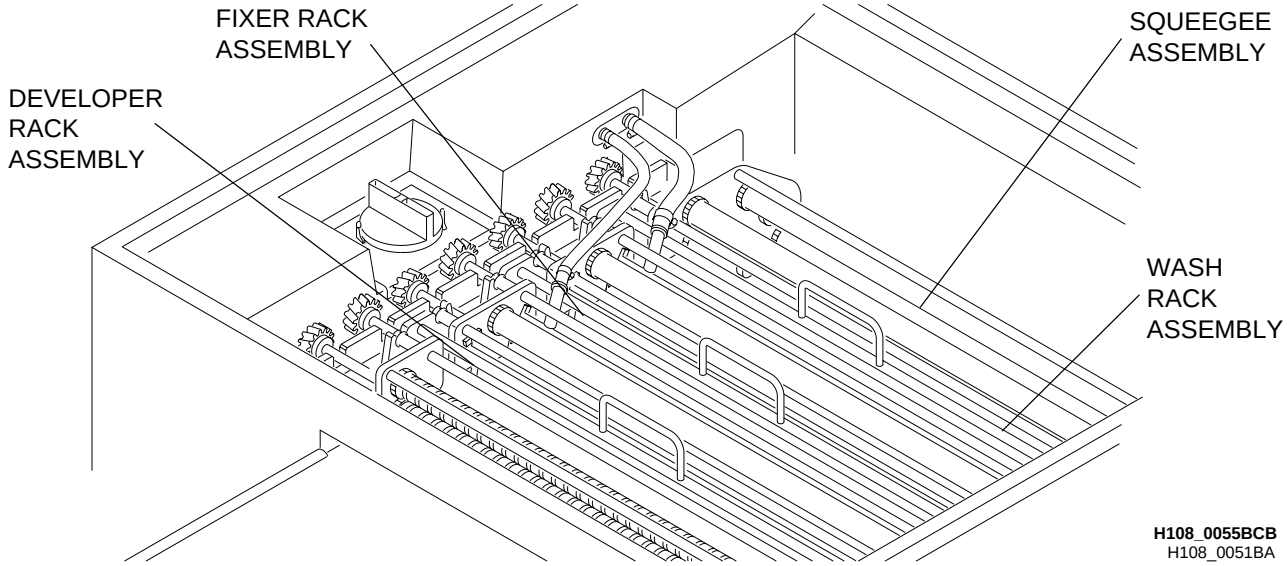


**Figure 1-4 Rack Identification**

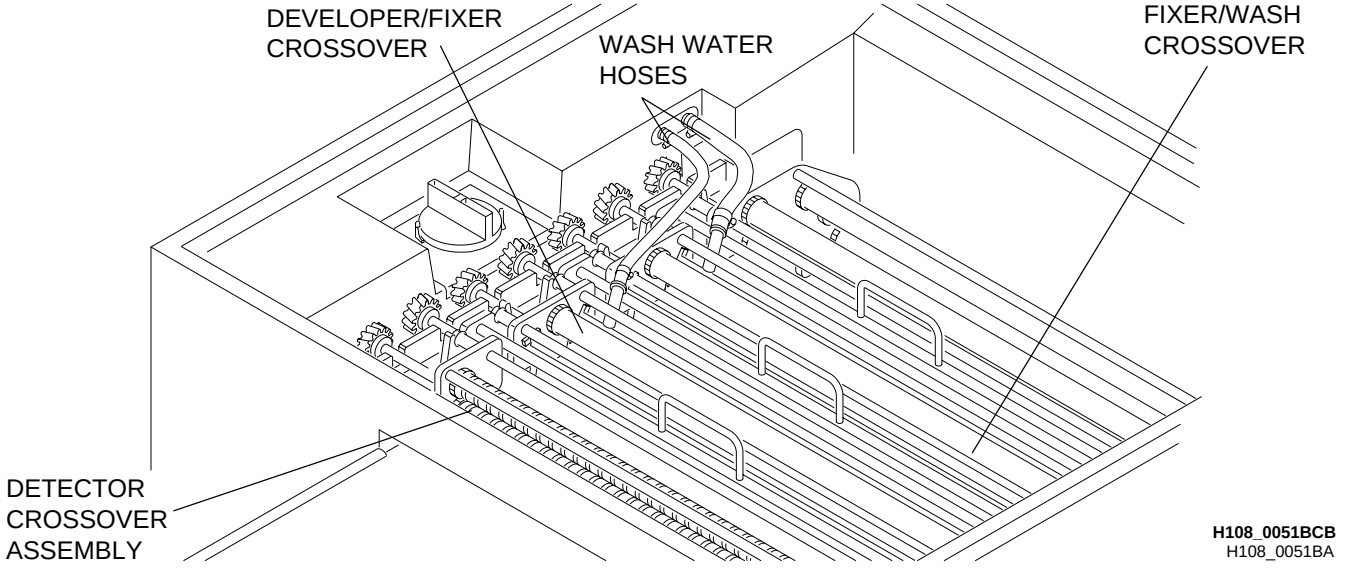


**Figure 1-5 Crossover Identification**

### Energizing the Processor

**[1]** Move the wall power switch to the ‘‘ON’’ position.

**[2]** Move the AUXILIARY CIRCUIT BREAKERS, CB2, CB3, and CB4 to the ‘‘I’’ position.

**[3]** Move the MAIN CIRCUIT BREAKER, CB1, to the ‘‘I’’ position.

### Deenergizing the Processor

**[1]** Move the MAIN CIRCUIT BREAKER, CB1, to the ‘‘O’’ position. See Figure 1-3 for the location of the CIRCUIT BREAKERS.

**[2]** Move AUXILIARY CIRCUIT BREAKERS CB2, CB3, and CB4, to the ‘‘O’’ position.

**[3]** Move the wall power switch to the ‘‘OFF’’ position.

**[4]** Attach the MAGNETIC POWER WARNING SIGN, TL-1926, to the wall power switch indicating that the processor is being serviced.

# SECTION 2
# Racks

**IMPORTANT**

All the procedures in this section require that you deenergize the processor and remove the TOP COVER before beginning the first step of the service procedure. For more information about how to deenergize the processor, see page 1-6. For more information about how to remove the processor's TOP COVER, see page 1-3.

## Squareness Adjustment

**Rack Assemblies**

**Chain Adjustment**

**Chain Replacement**

## Resilient G Roller

### Removal

## Resilient Drive Roller, Wash Rack

### Removal

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**Turnaround Assembly**

**Removal**

**B Roller Removal**

**Installing**

**Guide Shoes**

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# SECTION 3
# Main Drive

**IMPORTANT**

All the procedures in this section require that you deenergize the processor before beginning the first step of the service procedure; and many of the procedures require that you remove the TOP COVER, and the ACCESS PANELS from the processor before beginning the procedure. For more information about how to deenergize the processor, see page 1-6. For more information on how to remove the processor's TOP COVER and ACCESS PANELS, see pages 1-3 through 1-5.

### Adjusting the Sprocket Alignment on the Main Drive Chain

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the CHAIN GUARD.

**[2]** Loosen the SETSCREW on the MOTOR SHAFT SPROCKET.

**[3]** Move the MOTOR SHAFT SPROCKET into alignment with the DRIVE SHAFT SPROCKET.

**[4]** Tighten the SETSCREW.

### Adjusting the Chain Tension

**[5]** Loosen the 2 MOTOR MOUNTING BOLTS.

**[6]** Move the MOTOR to adjust the MOTOR DRIVE CHAIN for the correct tension, allowing a deflection of ⅛ in. to ¼ in. (3.2 to 6.4 mm).

**NOTE**

Do not make the MOTOR DRIVE CHAIN too tight.

### Lubricating the Chain

**[7]** Remove the CHAIN GUARD by loosening the SCREW securing it.

**CAUTION**

Do not allow the DRIVE CHAIN to operate without lubrication.

**[8]** Check that the MOTOR DRIVE CHAIN is lubricated.

- If the MOTOR DRIVE CHAIN is dry, apply lubricant to the CHAIN. Use NLG1-No. 2 Lithium Ball and Roller Bearing Grease TL-2324.
- If the MOTOR DRIVE CHAIN is rusty, remove the CHAIN and install a new MOTOR DRIVE CHAIN.

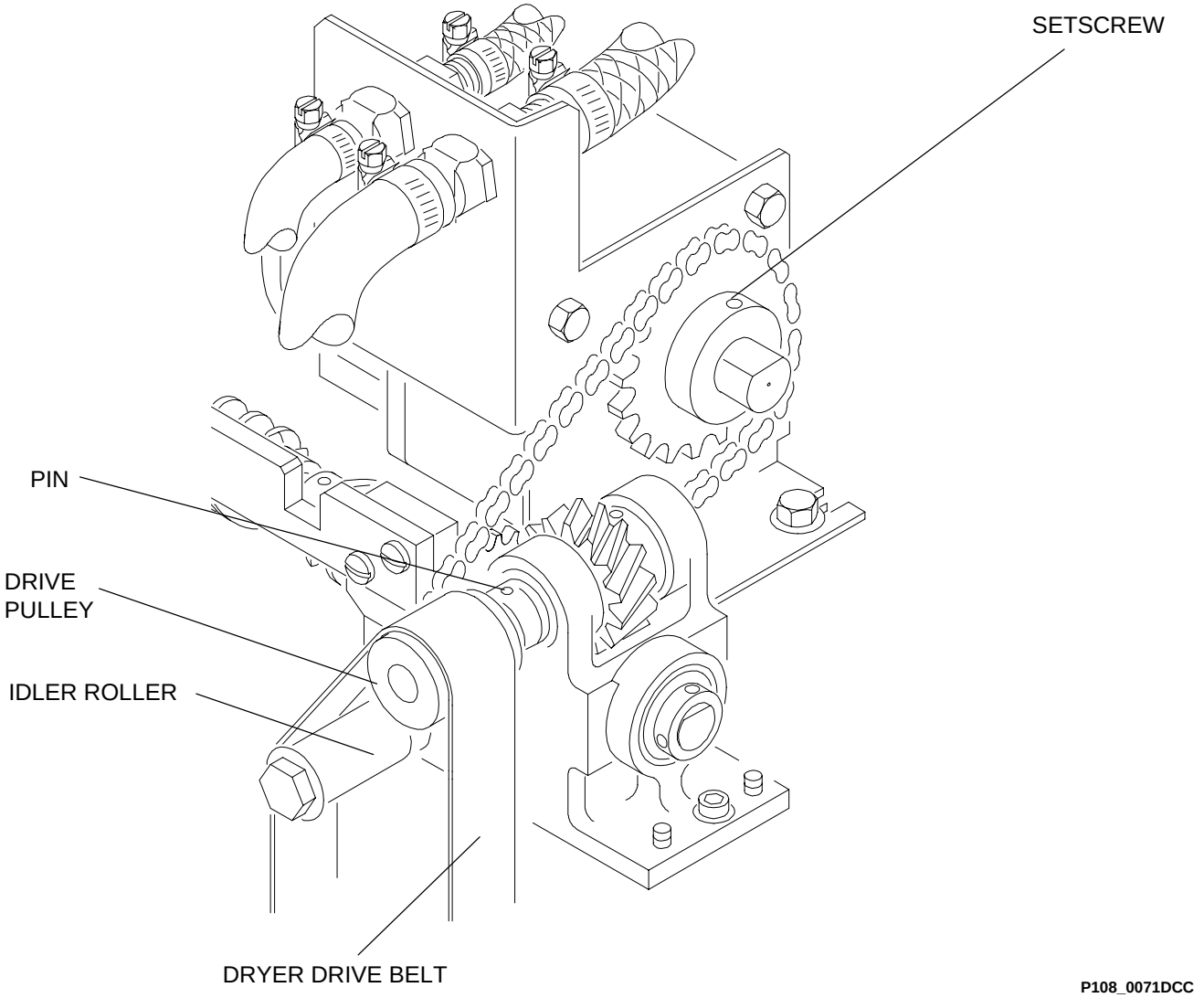


**Figure 3-1 Aligning the Motor Drive Shaft Sprocket**

## Removing the Main Drive Motor

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary. Also, make sure that the water supply to the processor is shut off for this procedure.

**[1]** Remove the SPLASH GUARD from the DRIVE SIDE of the processor.

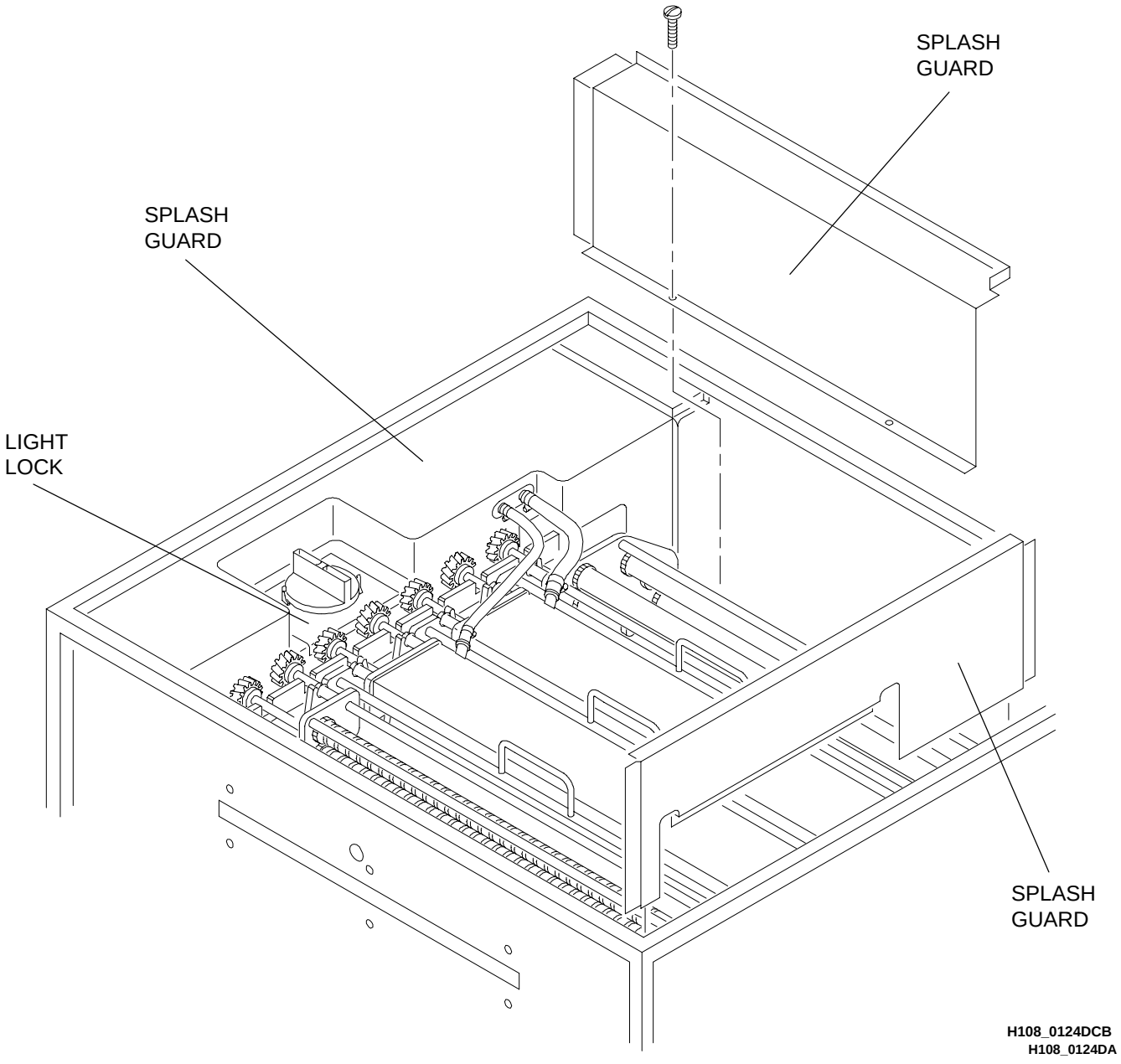


**Figure 3-2 Removing the Splash Guards**

**[2]** Remove the CHAIN GUARD by loosening the SCREW securing it.

**[3]** Disconnect the WATER HOSE from the MOTOR MOUNT BRACKET.

**[4]** Loosen the 2 MOTOR BRACKET MOUNTING BOLTS.

**[5]** Remove the CHAIN from the SPROCKET.

**[6]** Remove the SPROCKET from the MOTOR.

**[7]** Disconnect the MOTOR CONNECTOR J30.

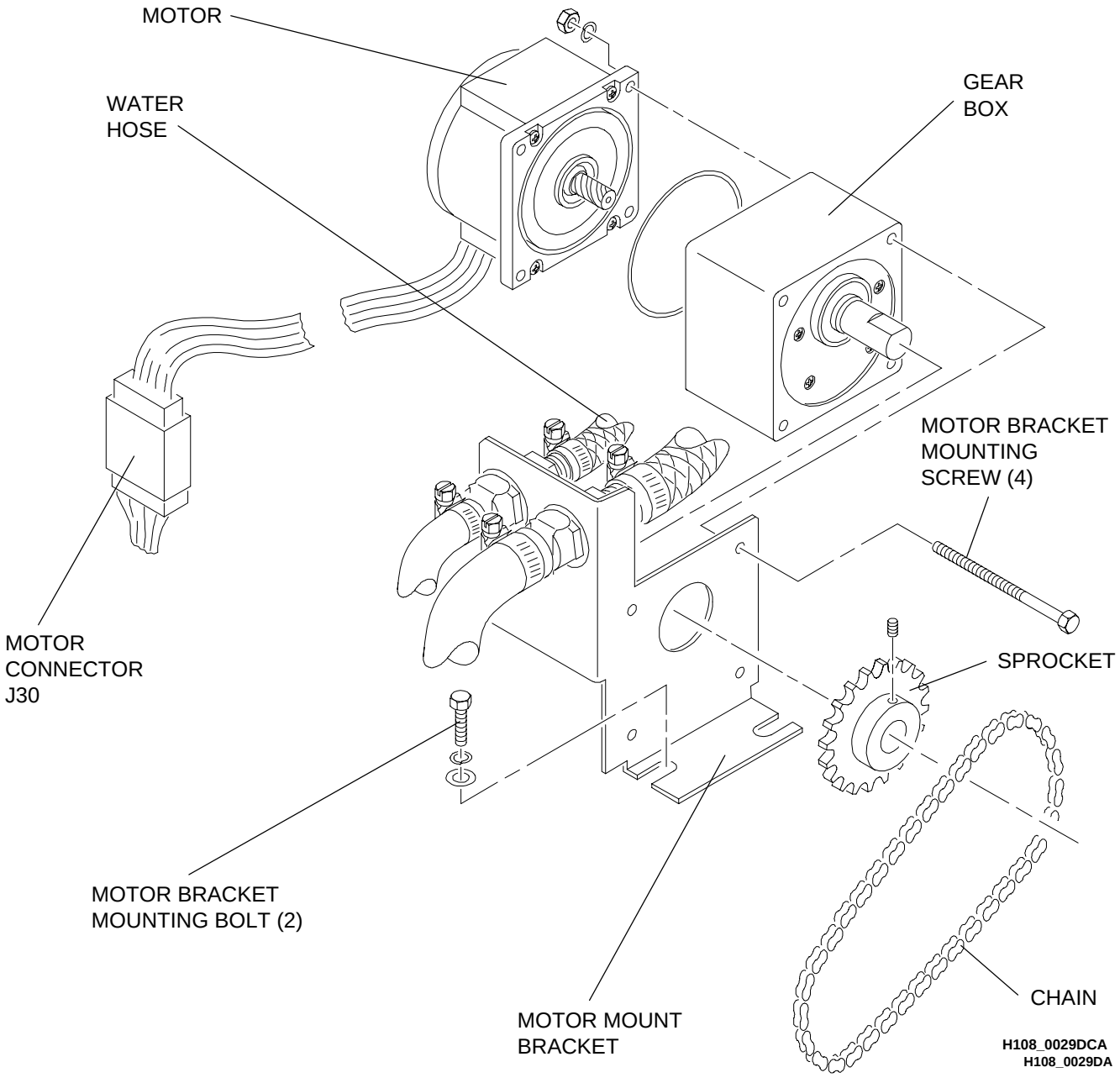


**Figure 3-3 Removing the Main Drive Motor**

**[8]** Remove the MOTOR and BRACKET ASSEMBLY from the processor.

**[9]** Remove the 4 MOTOR BRACKET MOUNTING SCREWS securing the MOTOR and GEAR BOX to the BRACKET.

**NOTE**

Use caution when removing the MOTOR so that the MOTOR does not separate from the GEAR BOX.

**[10]** Install the new MOTOR and GEAR BOX to the BRACKET using the 4 MOTOR BRACKET MOUNTING SCREWS removed previously.

**[11]** Install all parts removed in previous steps and make all necessary connections.

**[12]** Energize the processor by moving the MAIN CIRCUIT BREAKER, CB1, to the ‘‘I’’ position.

**[13]** Check that all cycle speeds are operating correctly and not producing any error codes.

**[14]** Deenergize the processor by moving the MAIN CIRCUIT BREAKER, CB1, to the ‘‘O’’ position.

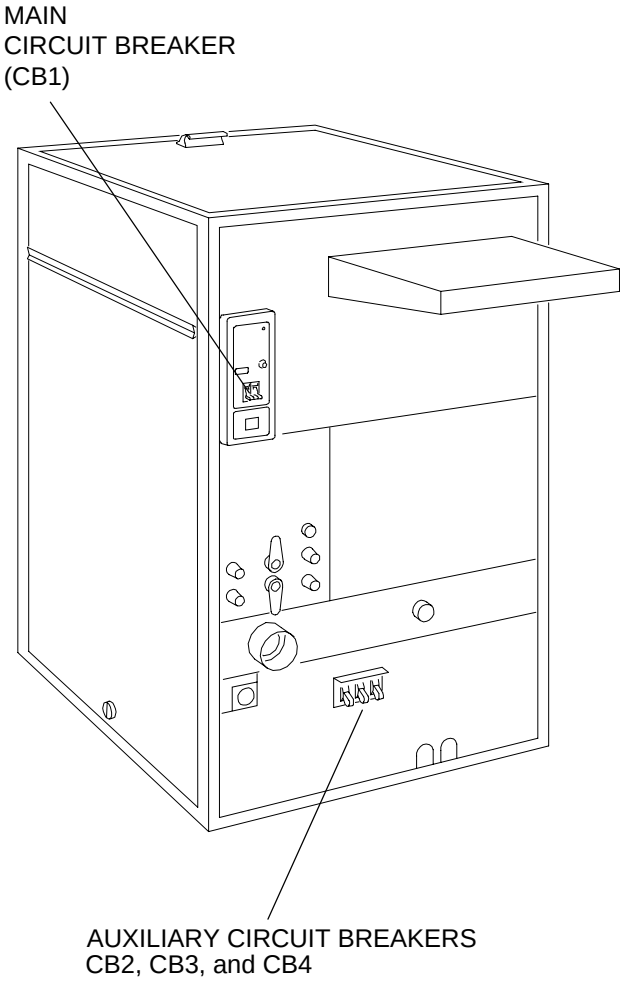


**Figure 3-4 Energizing and Deenergizing the Processor**

## Removing the Drive Shaft Assembly

**IMPORTANT**

For this procedure the processor must be deenergized, and the TOP COVER and RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-6 for instructions, if necessary.

**[1]** Remove the SPLASH GUARDS.

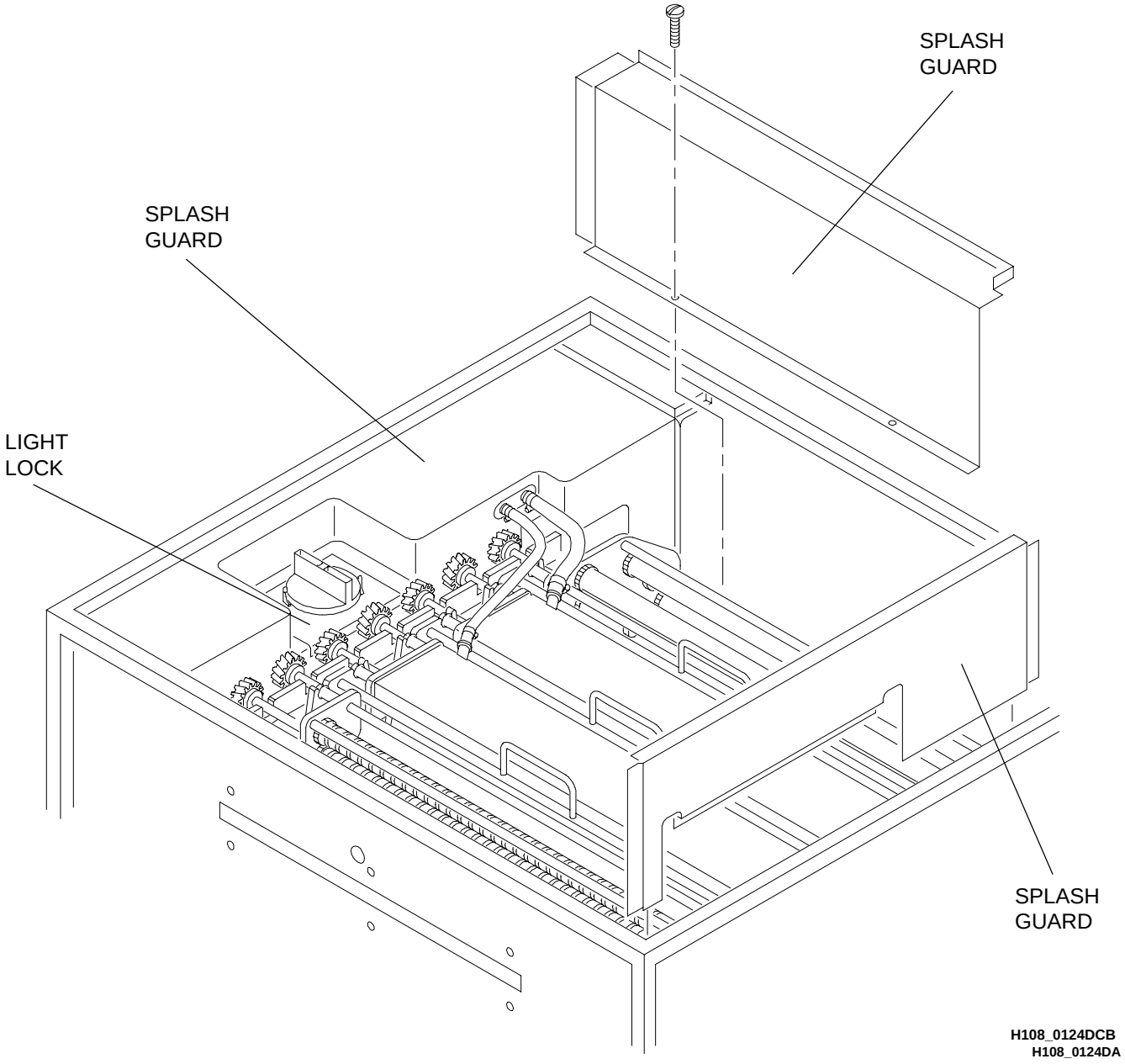


**Figure 3-5 Removing the Splash Guards**

**CAUTION**

Loosen the SCREWS slowly and carefully to avoid releasing the SPRING too fast.

**[2]** Loosen the 2 SCREWS securing the TENSIONER BRACKET to reduce the compression of the SPRING.

**[3]** Release the tension of the DRYER DRIVE BELT by removing the SPRING from the TENSIONER BRACKET.

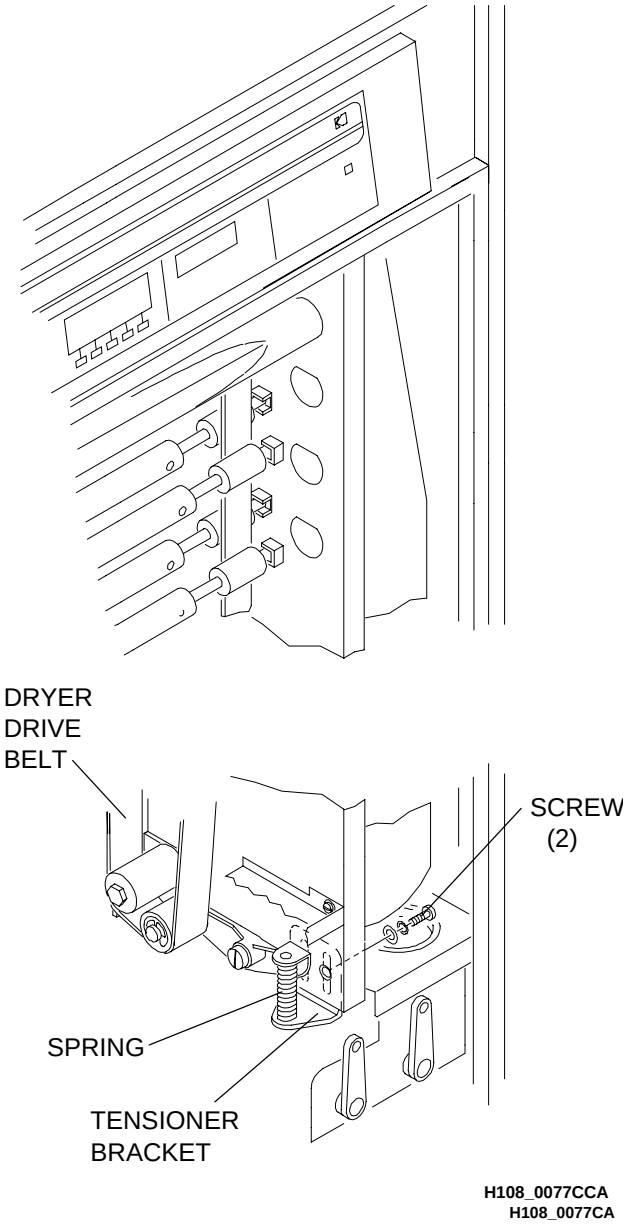


**Figure 3-6 Removing Tensioner Bracket Spring**

**[4]** Remove the 2 SCREWS that hold each BEARING SUPPORT.

**[5]** Remove the CHAIN from the MOTOR SPROCKET.

**[6]** Remove the MAIN DRIVE SHAFT from the processor.

**[7]** Remove the COLLAR from each end of the MAIN DRIVE SHAFT.

**[8]** Remove the 2 BEARING SUPPORTS.

**[9]** Install 2 BEARING SUPPORTS onto the new MAIN DRIVE SHAFT.

**[10]** Install all parts removed in previous steps.

**[11]** Increase the tension of the SPRING by tightening the 2 SCREWS that secure the TENSIONER BRACKET. Adjust the TENSIONER BRACKET to the minimum tension necessary to turn the ROLLERS. See Figure 3-6.

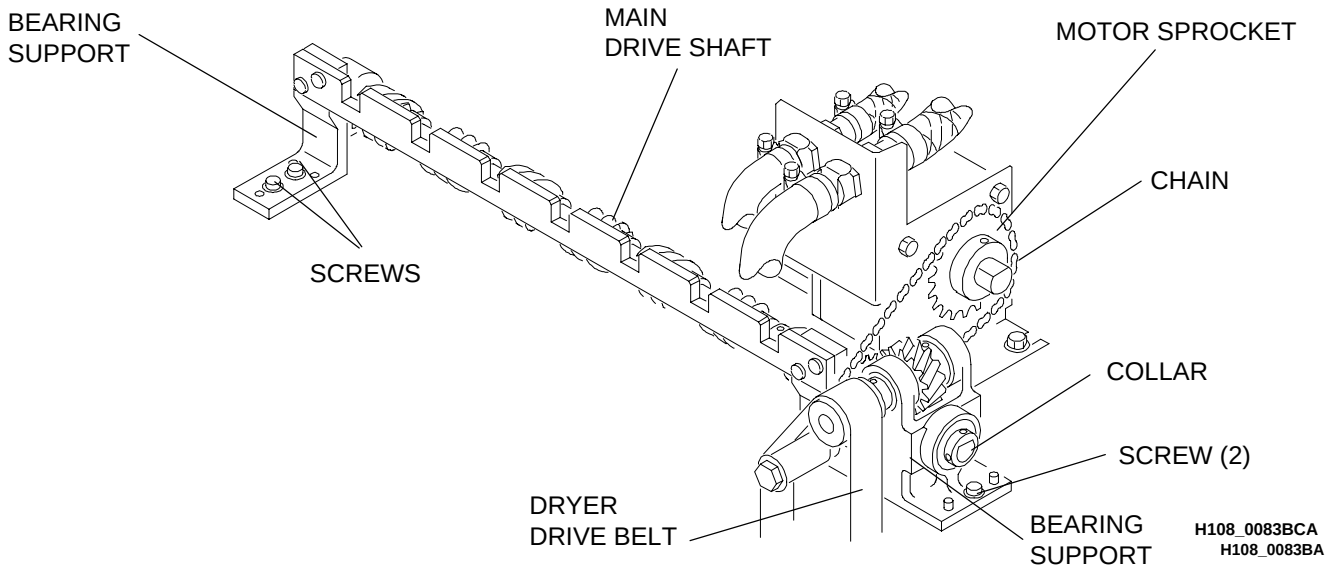


**Figure 3-7 Removing the Main Drive Shaft**

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# SECTION 4
# Dryer

**IMPORTANT**

All the procedures in this section require that you deenergize the processor before beginning the first step of the service procedure; and many of the procedures require that you remove the TOP COVER, and the ACCESS PANELS from the processor before beginning the procedure. For more information about how to deenergize the processor, see page 1-6. For more information about how to remove the processor's TOP COVER and ACCESS PANELS, see pages 1-3 through 1-5.

## Removing the Blower Assembly

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Loosen the SCREW and WASHER to remove the BLOWER MOTOR COVER from the BLOWER DRIVE MOTOR.

**[2]** Remove the 3 MOUNTING BOLTS from the BLOWER ASSEMBLY and BLOWER DRIVE BELT.

**[3]** Remove the BLOWER ASSEMBLY.

**[4]** Loosen the 2 SETSCREWS to remove the BLOWER DRIVE BELT PULLEY from the BLOWER ASSEMBLY.

**[5]** Install the BLOWER DRIVE BELT PULLEY onto the new BLOWER ASSEMBLY.

**[6]** Install the new BLOWER ASSEMBLY using the 3 MOUNTING BOLTS removed Step 3.

**[7]** Align the BLOWER DRIVE MOTOR and the BLOWER DRIVE BELT PULLEYS.

**[8]** Install the BLOWER DRIVE BELT.

**[9]** Adjust the position of the BLOWER DRIVE MOTOR to obtain the correct tension of the BLOWER DRIVE BELT.

**CAUTION**

Correct tension is achieved when the BLOWER DRIVE BELT does not make loud noises when you energize the processor. This step requires that you energize the processor in order to test for correct tension, and then deenergize the processor to correct the tension.

**[10]** Install the BLOWER MOTOR COVER.

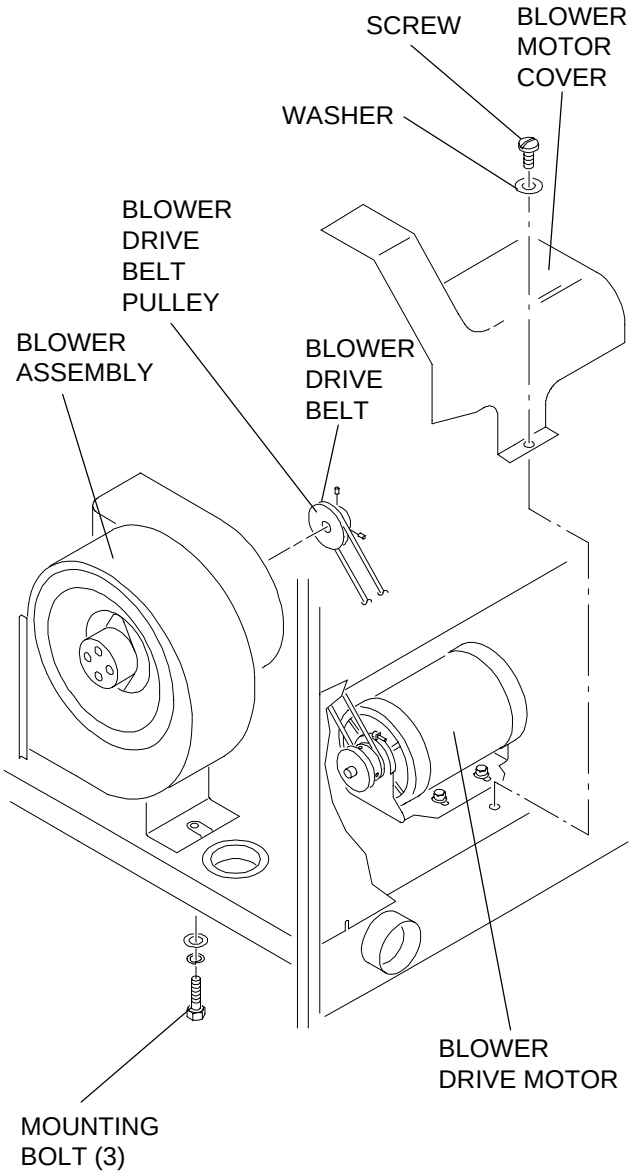


**Figure 4-1 Removing the Blower Assembly**

### Removing a Bearing

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the BLOWER MOTOR COVER from the BLOWER DRIVE MOTOR.

**[2]** Remove the BLOWER DRIVE BELT.

**[3]** Loosen the 2 SETSCREWS on the BLOWER DRIVE BELT PULLEY.

**[4]** Remove the BLOWER DRIVE BELT PULLEY.

**NOTE**

If necessary, loosen the BLOWER MOTOR.

### Inner Bearing

**[1]** Loosen the 2 SETSCREWS on the INNER BEARING.

**[2]** Remove the 2 NUTS, 2 WASHERS, and 2 LOCK WASHERS.

**[3]** Remove the INNER BEARING.

**[4]** Install the new INNER BEARING.

**[5]** Check the tension, alignment and the operation of the DRIVE COMPONENTS.

**[6]** Install all parts removed in previous steps.

### Outer Bearing

**[1]** Remove the OUTER BEARING COVER.

**[2]** Loosen the 2 SETSCREWS on the OUTER BEARING.

**[3]** Remove the 2 NUTS, 2 WASHERS, and 2 LOCK WASHERS.

**[4]** Remove the OUTER BEARING.

**[5]** Install the new OUTER BEARING.

**[6]** Install all parts removed in previous steps.

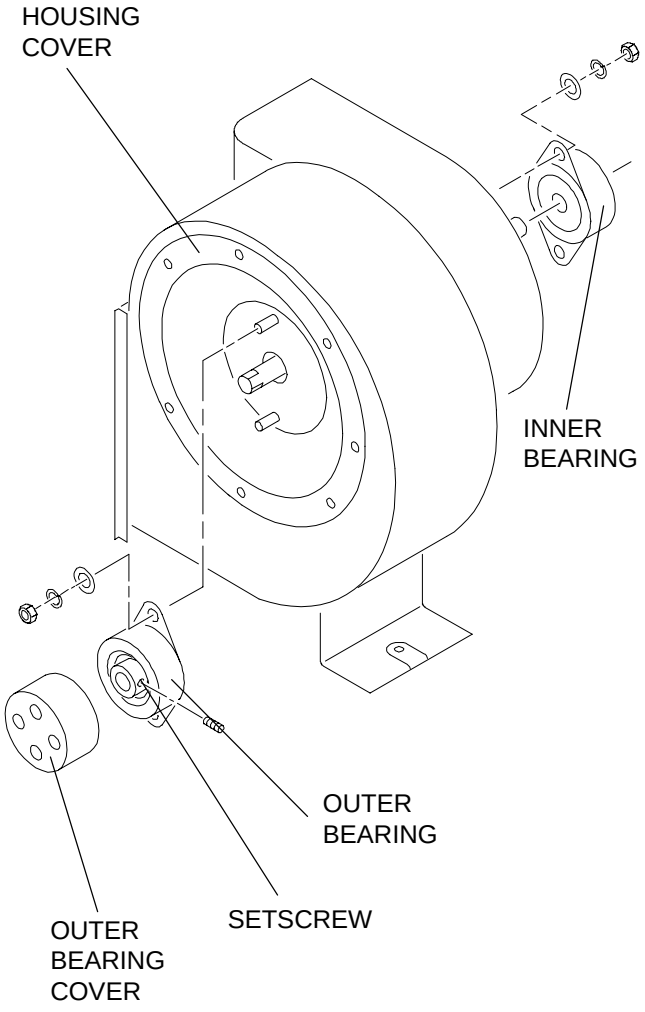


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**Figure 4-2 Removing the Bearings**

**Removing the Blower Impeller Shaft**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the BLOWER MOTOR COVER from the BLOWER DRIVE MOTOR.

**[2]** Remove the BLOWER DRIVE BELT.

**[3]** Loosen the 2 DRIVE PULLEY SETSCREWS.

**[4]** Remove the BLOWER DRIVE BELT PULLEY.

**[5]** Loosen the INNER BEARING SETSCREWS.

**[6]** Loosen the OUTER BEARING SETSCREWS.

**[7]** Remove the SCREWS and the HOUSING COVER.

**[8]** Remove the IMPELLER SHAFT AND IMPELLER ASSEMBLY.

**[9]** Loosen the IMPELLER SETSCREWS.

**[10]** Remove the IMPELLER ASSEMBLY from the IMPELLER SHAFT.

**[11]** Install a new IMPELLER ASSEMBLY onto the IMPELLER SHAFT.

**[12]** Install all parts removed and tighten any SCREWS loosened in previous steps.

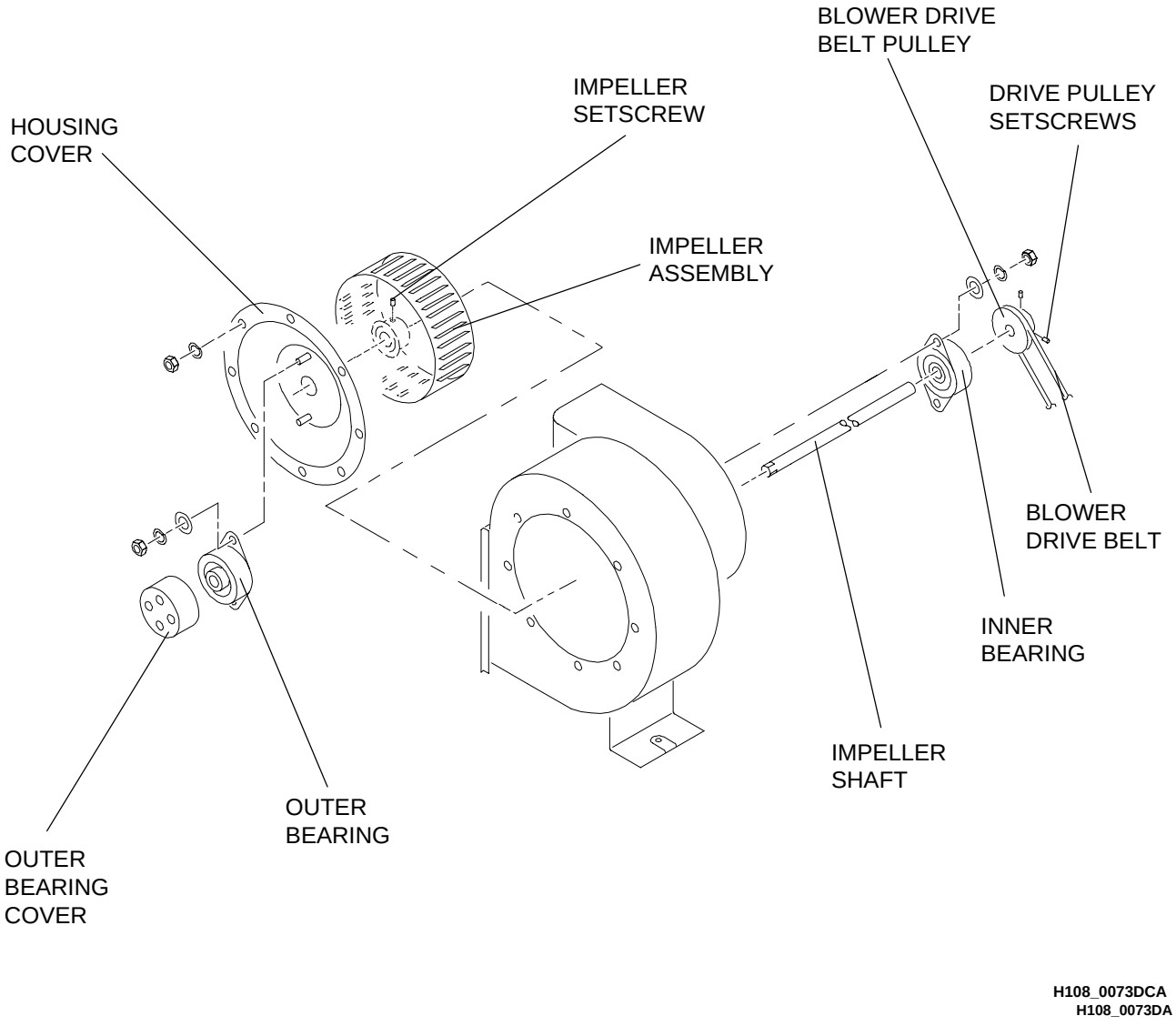



**Figure 4-3 Removing the Blower Impeller Shaft**

**Removing the Blower Drive Belt**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END, MIDDLE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Loosen the SCREW and WASHER to remove the BLOWER MOTOR COVER from the BLOWER DRIVE MOTOR.

**[2]** Loosen the 3 MOTOR MOUNTING BOLTS.

**[3]** Move the BLOWER DRIVE MOTOR to loosen the BLOWER DRIVE BELT.

**[4]** Install the new BLOWER DRIVE BELT, and move the BLOWER DRIVE MOTOR to tighten the BLOWER DRIVE BELT.

**Aligning the Blower Drive Belt**

**[5]** Loosen the 2 BLOWER PULLEY SETSCREWS.

**[6]** Move the BLOWER PULLEY until the BLOWER DRIVE BELT is straight. See the Figure.

**[7]** Tighten the 2 BLOWER PULLEY SETSCREWS.

**Adjusting the Blower Drive Belt**

**[8]** Loosen the 3 MOTOR MOUNTING BOLTS.

**[9]** Adjust the position of the BLOWER DRIVE MOTOR to achieve the correct tension of the BLOWER DRIVE BELT.

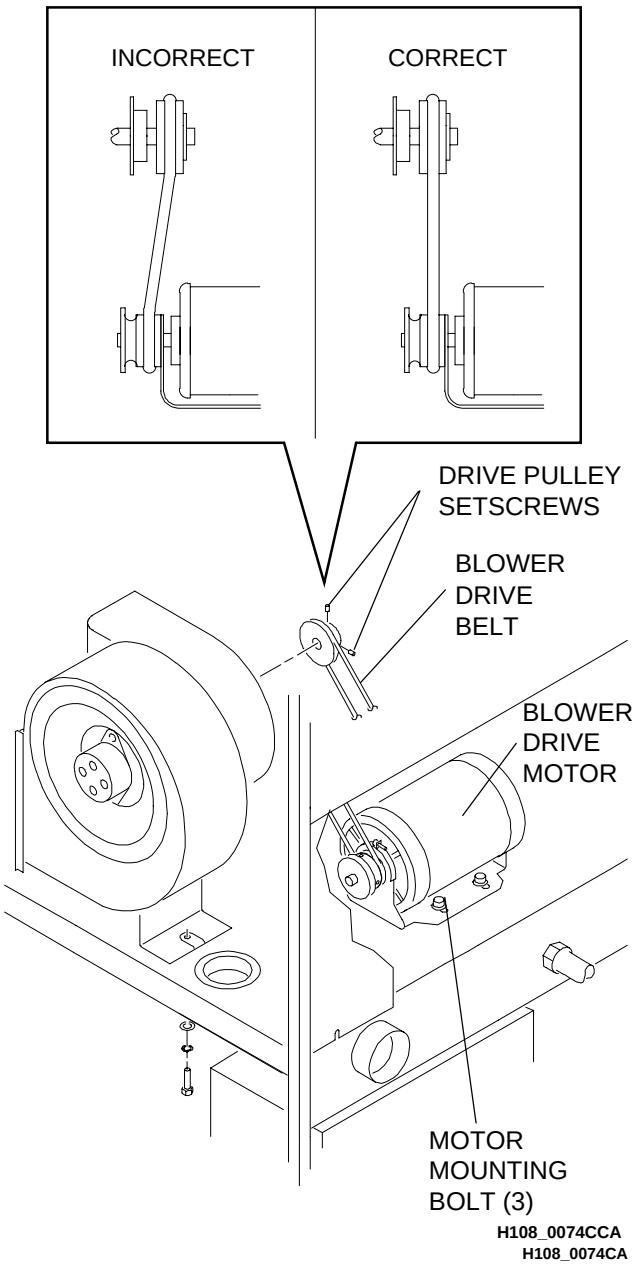



**Figure 4-4 Aligning the Blower Drive Belt**

**CAUTION**

Correct tension is achieved if the BLOWER DRIVE BELT does not make loud noises when you energize the processor. This step requires that you energize the processor in order to test for correct tension, and then deenergize the processor to correct the tension.

**[10]** When you obtain the correct tension of the BLOWER DRIVE BELT, tighten the 3 MOTOR MOUNTING BOLTS.

## Removing the Air Plenum

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the RECEIVING-END and NON-DRIVE SIDE ACCESS PANELS must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**NOTE**

If the DRIVE SIDE of the processor is against the WALL, use a small OFFSET SCREWDRIVER TL-1611 and a SCREWDRIVER with HOLDER TL-1194 to do this procedure.

**[1]** Remove:

- SCREWS
- THERMISTOR and CABLING
- AIR PLENUM.

**[2]** Disconnect CONNECTOR P/J 45.

**[3]** Install all parts removed in previous steps.

**NOTE**

When installing the THERMISTOR, use SILASTIC SEALANT RTV 102 TL-2191 or equivalent.

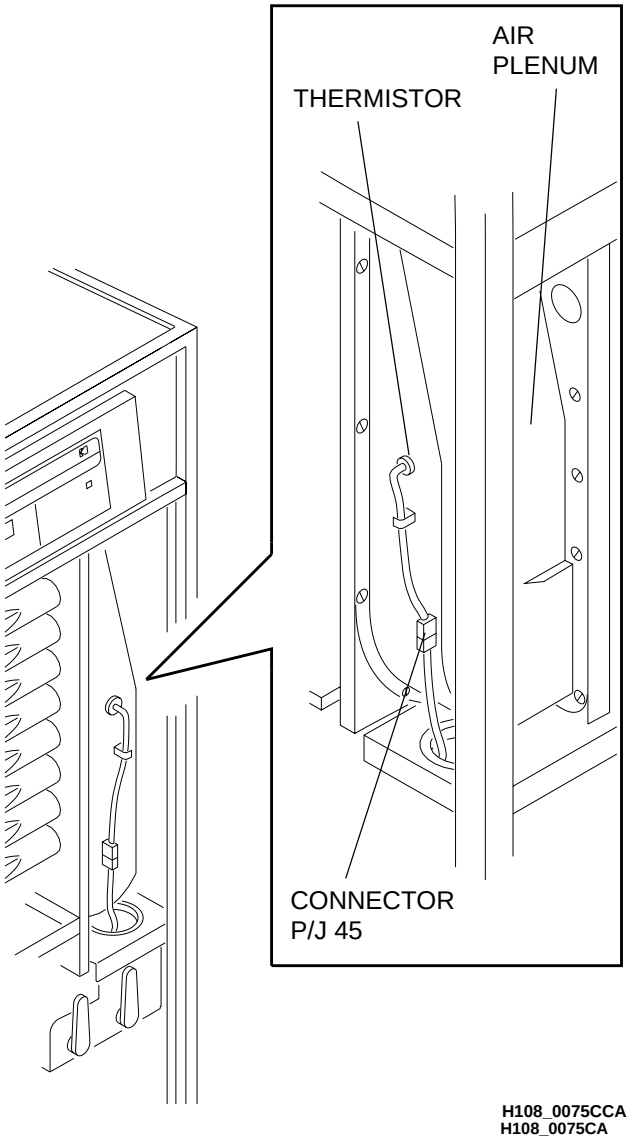



**Figure 4-5 Removing the Air Plenum**

## Removing a Dryer Transport Roller Pulley

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the DRYER TRANSPORT ROLLER ASSEMBLY.

**[2]** Remove the PULLEY.

**NOTE**

If the PULLEY is tight, it may be necessary to remove the SHAFT and gently tap the SHAFT loose from the PULLEY. Be careful not to damage the end of the SHAFT.

**[3]** To lubricate the new PULLEY, place it in hot water.

**[4]** Install the new PULLEY onto the SHAFT.

**[5]** Align the new PULLEY with the GROOVE MARK on the SHAFT.

**[6]** Install the DRYER TRANSPORT ROLLER ASSEMBLY in the processor.

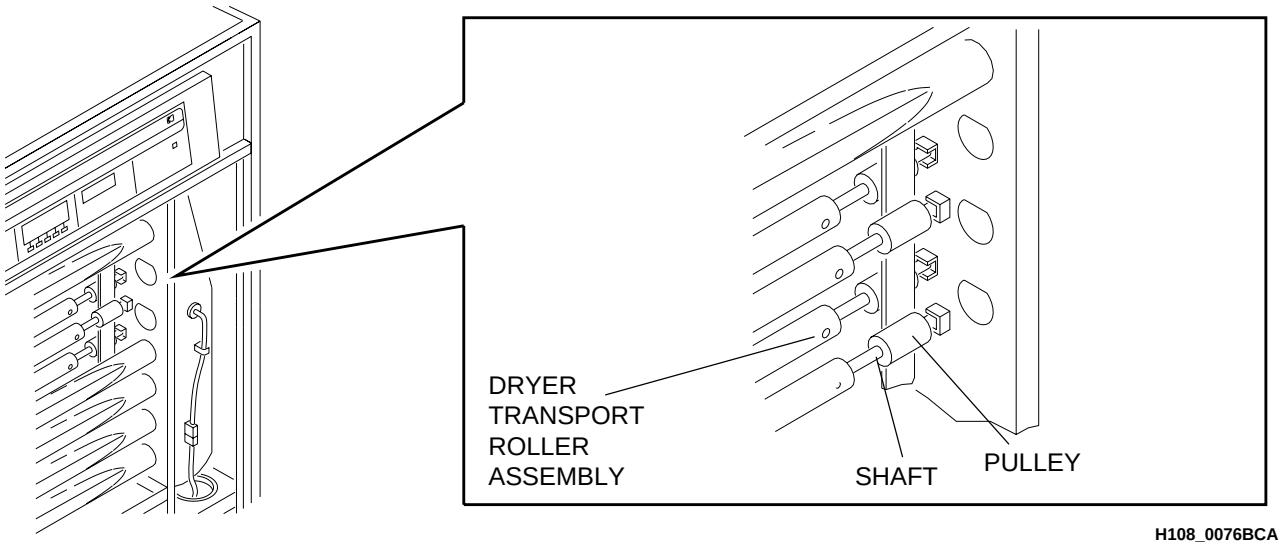



**Figure 4-6 Removing a Roller Pulley**

**Removing the Dryer Drive Pulley**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**CAUTION**

Loosen the SCREWS slowly and carefully to avoid releasing the SPRING unexpectedly.

**[1]** Loosen the 2 SCREWS securing the TENSIONER BRACKET to relax the compression of the SPRING.

**[2]** To release the tension on the DRYER DRIVE BELT, remove the SPRING from the TENSIONER BRACKET.

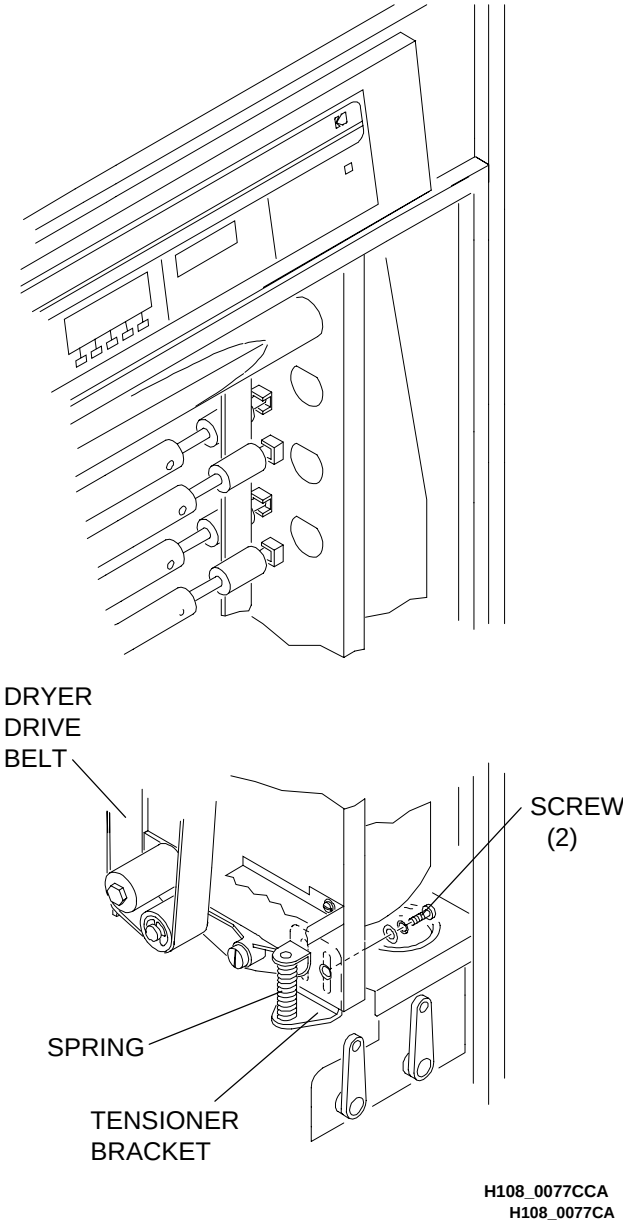



**Figure 4-7 Removing the Spring**

**[3]** Move the DRYER DRIVE BELT off the DRIVE PULLEY.

**[4]** Remove the PIN from the DRIVE PULLEY.

**[5]** Remove the DRIVE PULLEY.

**[6]** Install a new PULLEY and PIN.

**[7]** Place the DRYER DRIVE BELT onto the DRIVE PULLEY.

**[8]** Insert the SPRING into the TENSIONER BRACKET. See Figure 4-7.

**[9]** Increase the tension of the SPRING by tightening the 2 SCREWS that secure the TENSIONER BRACKET. Adjust the TENSIONER BRACKET to the minimum tension necessary to turn the ROLLERS.

**[10]** If the DRYER DRIVE BELT does not remain in the middle of the DRYER IDLER ROLLER, do the Dryer Belt Tracking Adjustment on page 4-15.

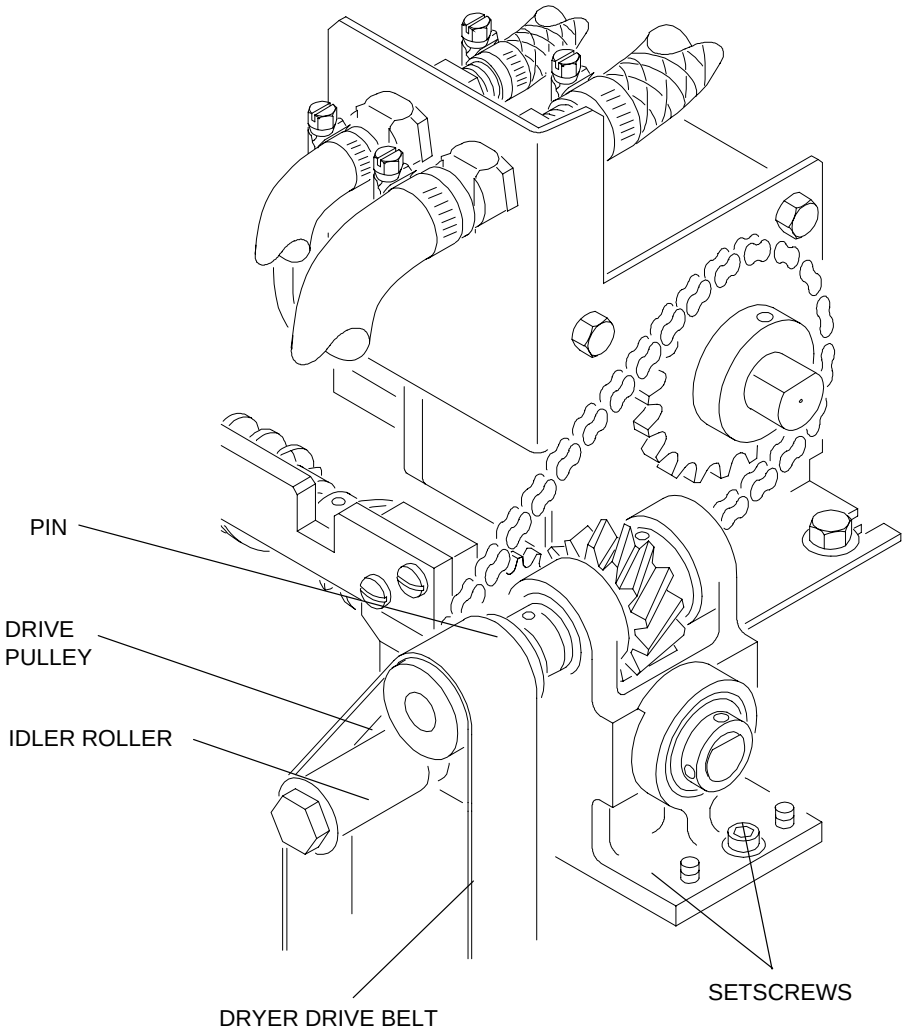



**Figure 4-8 Removing the Pin**

## Removing the Dryer Drive Belt

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the outer AIR TUBES.

**[2]** Remove the ROLLER ASSEMBLIES.

**[3]** Remove the inner AIR TUBES.

**[4]** To release the tension on the BELT, remove the SPRING from the TENSIONER BRACKET by loosening the 2 SCREWS. See Figure 4-7 on page 4-9.

**[5]** Remove the DRIVE BELT.

**[6]** Install a new DRIVE BELT.

**[7]** Insert the SPRING into the TENSIONER BRACKET. See Figure 4-7 on page 4-9.

**[8]** Install the inner AIR TUBES, ROLLERS, and outer AIR TUBES.

**[9]** If the DRYER DRIVE BELT does not remain in the middle of the DRYER IDLER ROLLER, do the Dryer Belt Tracking Adjustment on page 4-15.

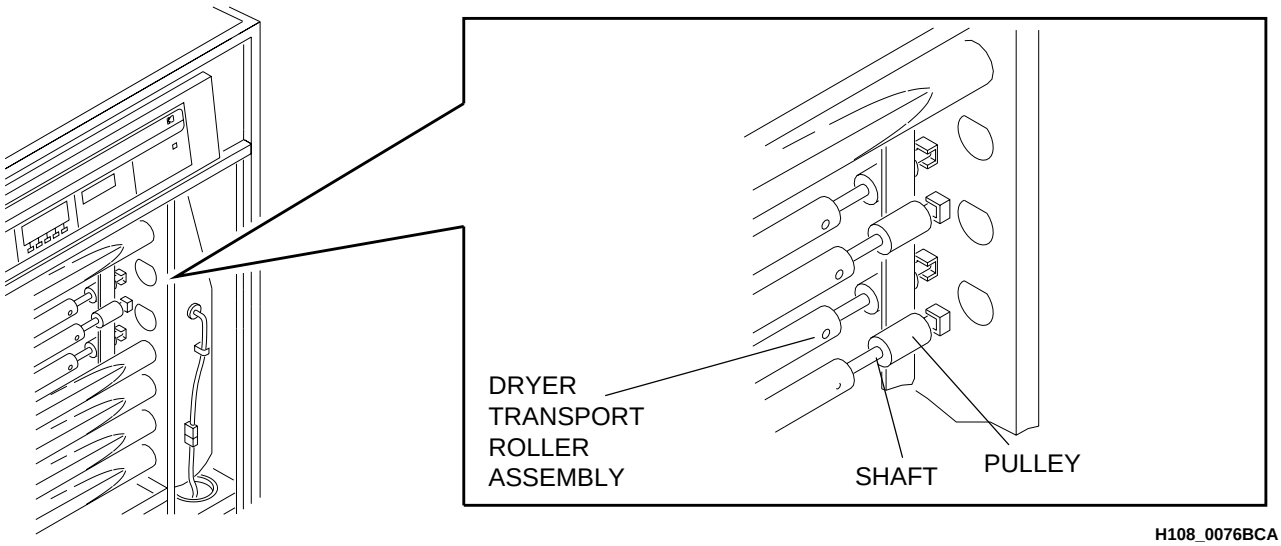



**Figure 4-9 Removing Air Tubes and Rollers**

**Removing a Dryer Roller Support**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the RECEIVING-END and NON-DRIVE SIDE ACCESS PANELS must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** To remove a DRYER ROLLER SUPPORT, compress the 2 WINGS and push towards center of the DRYER.

**[2]** To install a DRYER ROLLER SUPPORT, snap the ROLLER SUPPORT into the keyed opening in the SIDE PLATE of the processor's NON-DRIVE SIDE.

**NOTE**

The DRIVE-SIDE SUPPORTS can only be installed with the opening toward the BELT. The NON-DRIVE SIDE SUPPORTS can only be installed with the opening toward the top of the processor.

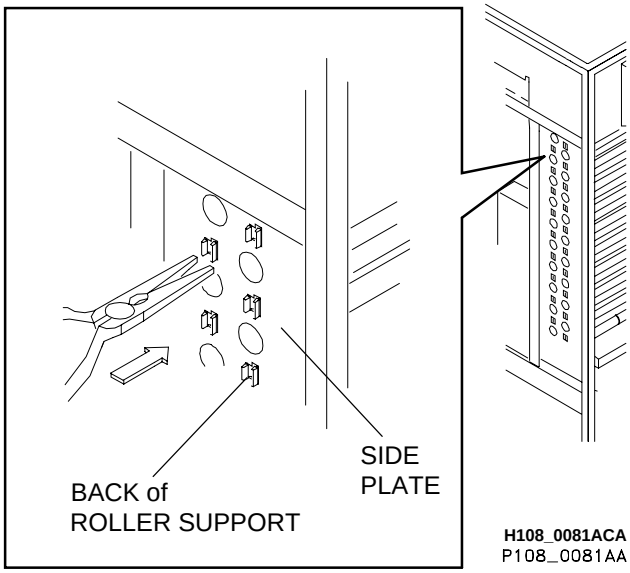



**Figure 4-10 Removing a Dryer Roller Support**

**Removing the Dryer Heater**

**IMPORTANT**

For this procedure the processor must be deenergized, and the RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-6 for instructions, if necessary.

**[1]** Remove:

- bottom 6 AIR TUBES
- bottom 12 ROLLERS
- GRILL ASSEMBLY.

**[2]** Disconnect the WIRES from the HEATER BAR.

**[3]** Remove the HEATER BAR ASSEMBLY.

**[4]** Install a new HEATER BAR ASSEMBLY.

**[5]** Connect the WIRES disconnected in Step 2.

**[6]** Install the GRILL, ROLLERS, and AIR TUBES.

**NOTE**

The first time the processor is energized, the HEATER will have an odor. This is normal for a new HEATER.

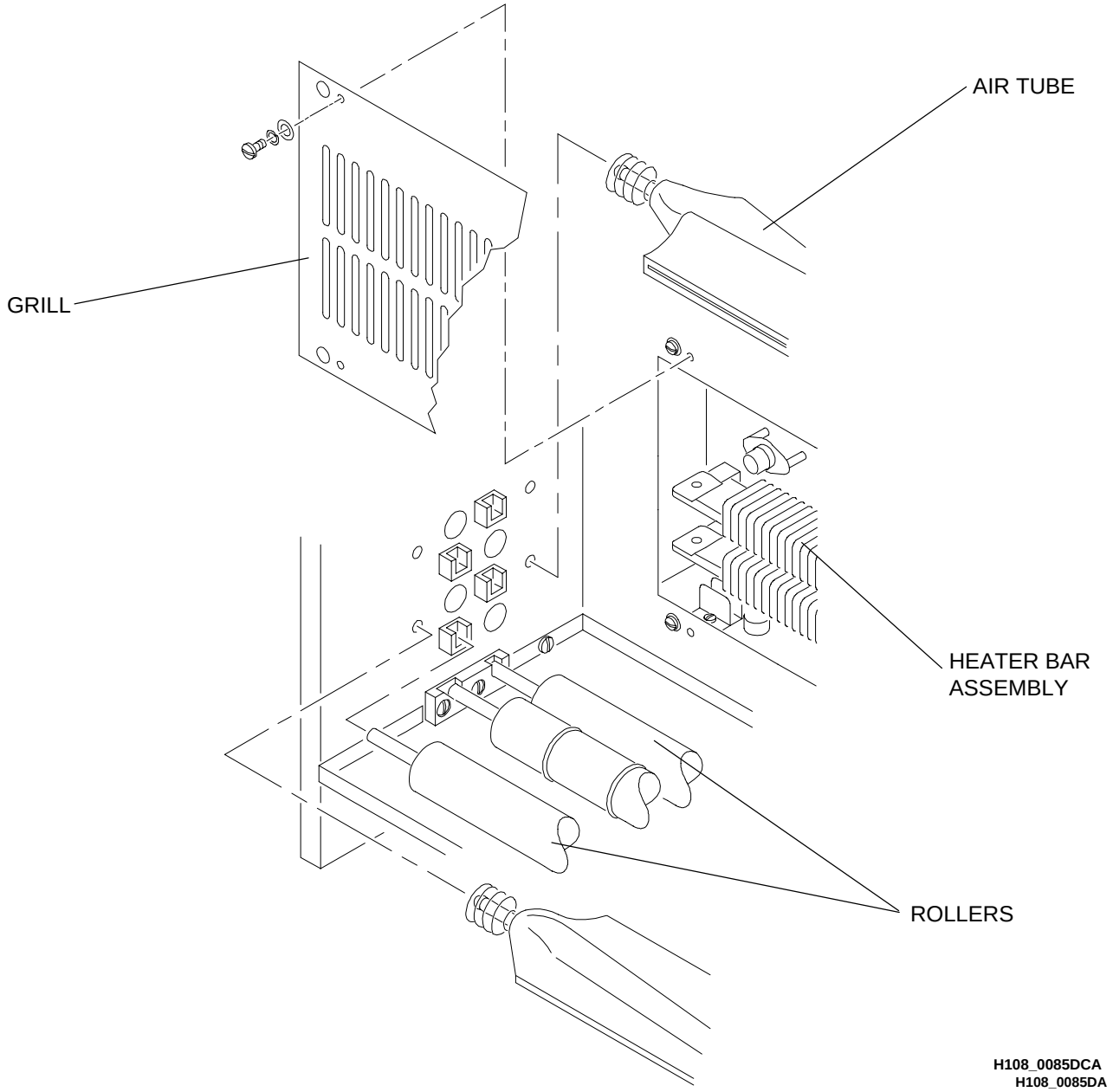



**Figure 4-11 Removing the Dryer Heater**

## Removing the Dryer Exhaust Fan

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the DRIVE SIDE ACCESS PANEL and the RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Disconnect CONNECTOR P/J 4.

**[2]** Remove the EXHAUST HOSE from the FAN BODY.

**[3]** Loosen the 2 SCREWS from the FAN SUPPORT.

**[4]** Remove the FAN ASSEMBLY from the processor.

**[5]** Install the new FAN ASSEMBLY.

**[6]** Install all parts removed in previous steps and make any necessary connections.

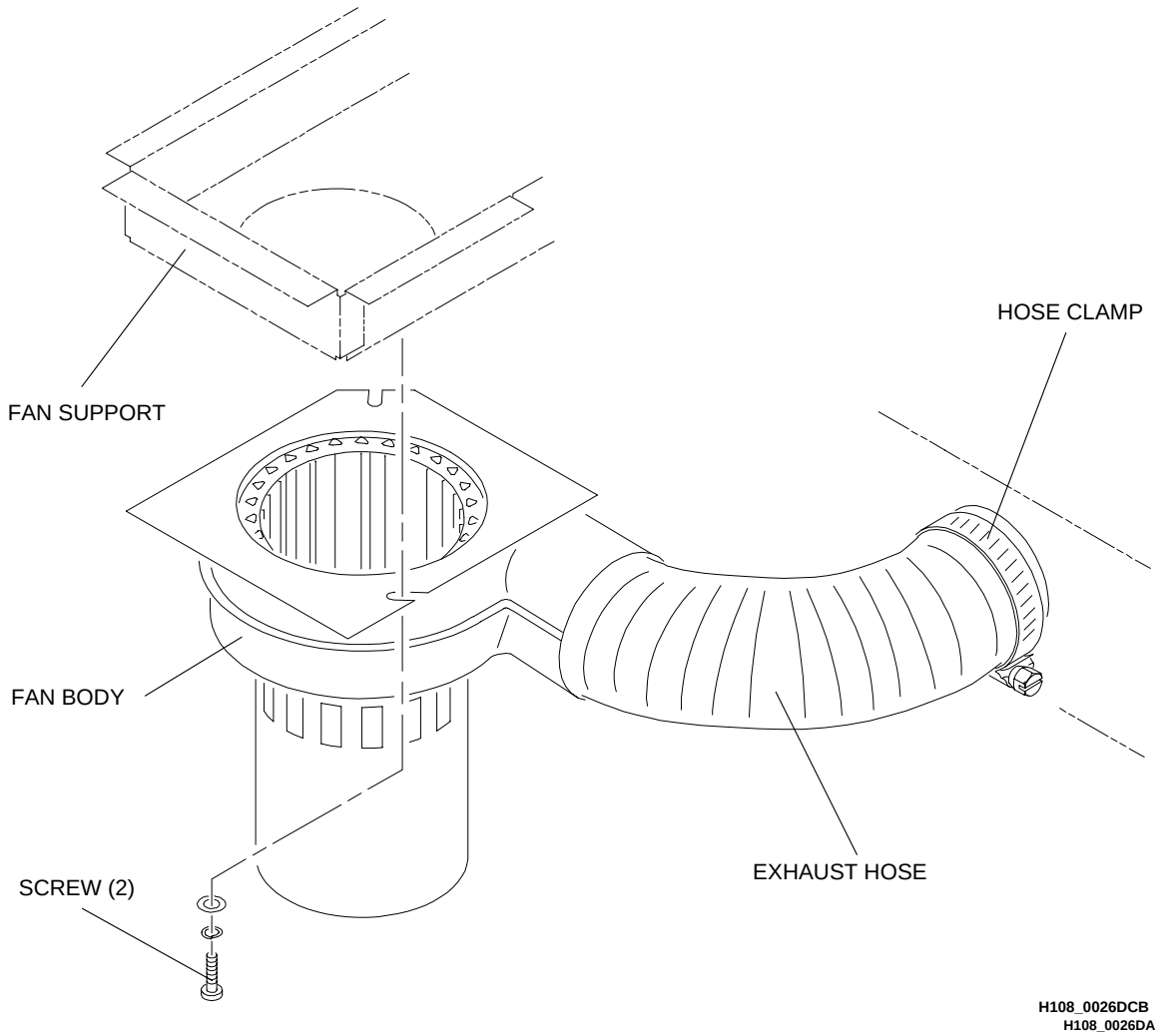



**Figure 4-12 Removing the Fan Support Screws**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and the RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Disconnect the WATER HOSE from the FIXER/WASH CROSSOVER.

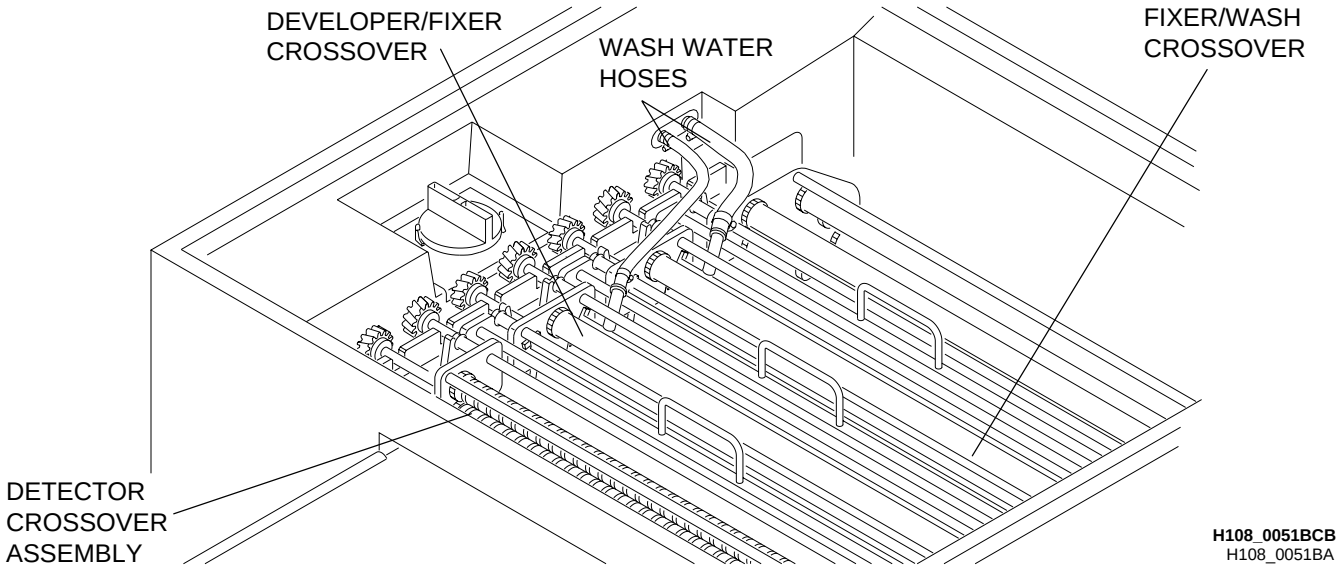



**Figure 4-13 Disconnecting the Hose from the Fixer/Wash Crossover**

**[2]** Remove the FILTER CANISTER LIGHT SHIELD.

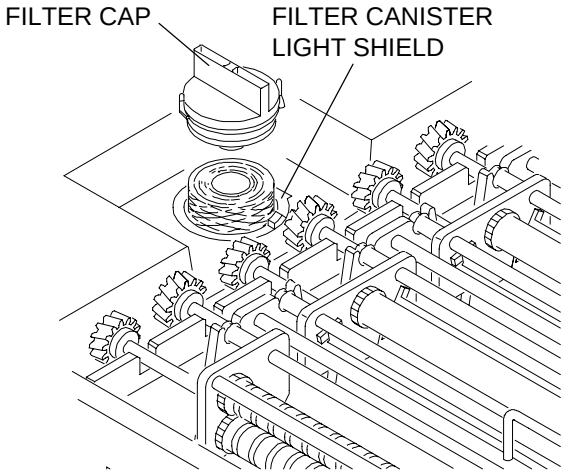



**Figure 4-14 Removing the Filter Canister Light Shield**

**[3]** Remove the DRIVE SIDE SPLASH GUARD.

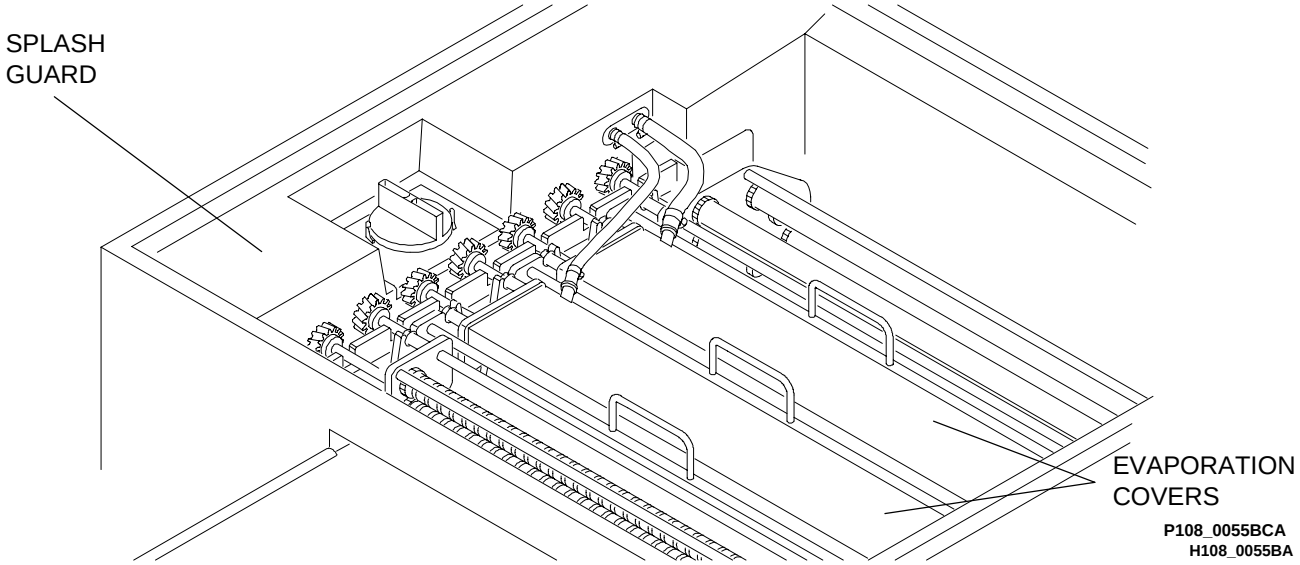



**Figure 4-15 Removing the Splash Guard**

**[4]** Loosen ¼ turn the 2 SCREWS that secure the DRYER DRIVE ASSEMBLY to the FRAME of the processor.

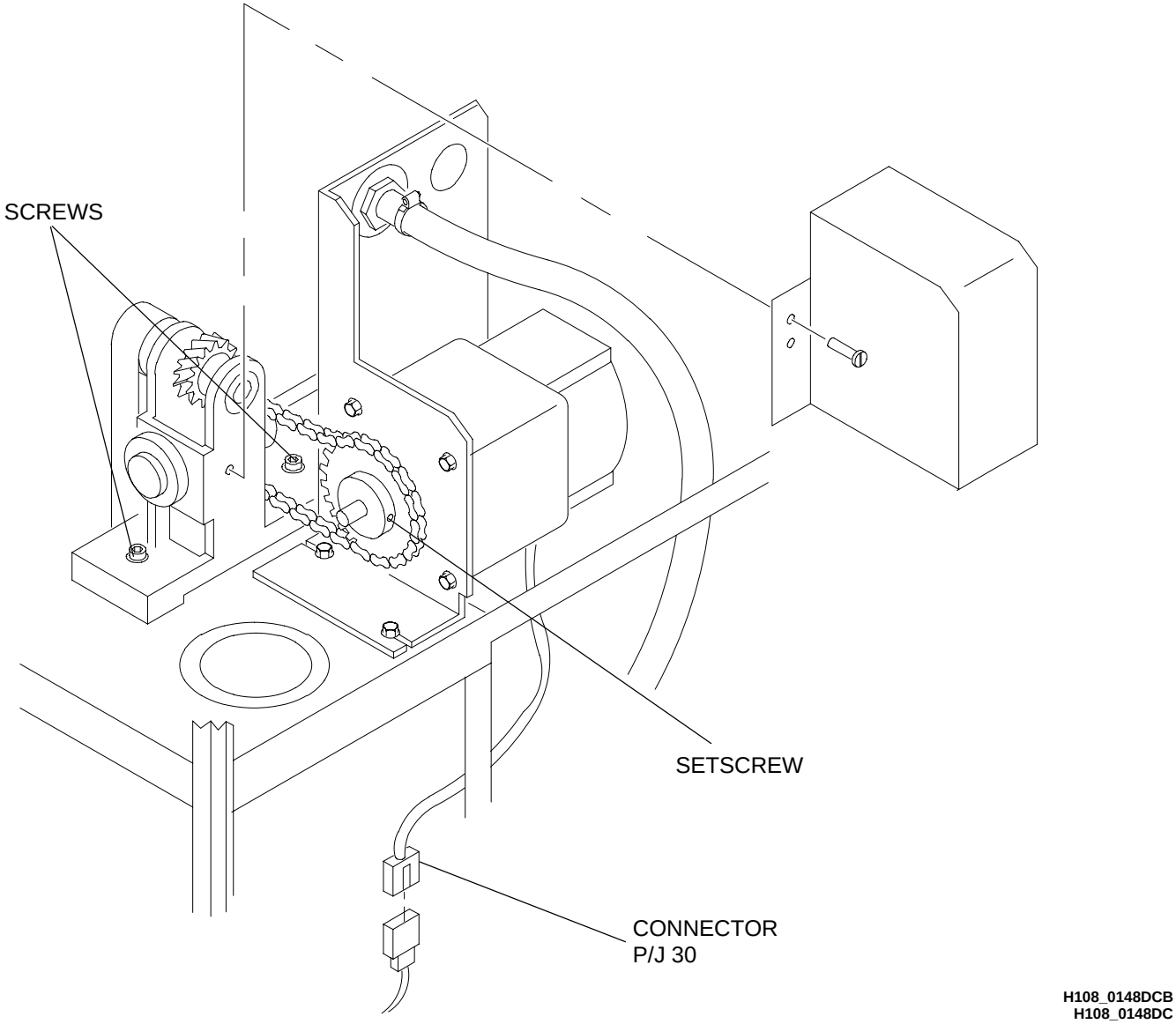



**Figure 4-16 Loosening the Dryer Drive Assembly**

**[5]** Energize the processor by moving the MAIN CIRCUIT BREAKER, CB1, on the CONTROL PANEL to the ‘‘I’’ position.

**[6]** See the Operator Manual for the flowchart of menus leading to Diagnostics.

- If you have a LAPTOP COMPUTER, enter the Diagnostics Mode and energize the DRIVE MOTOR.
- If you do not have a LAPTOP COMPUTER, and cannot enter the Diagnostics Mode—
  - Remove the TOP COVER of the processor.
  - Install a JUMPER, Special Tool TL- 4413, into P/J 29.
- Insert a sheet of waste film into the ENTRANCE ROLLER to activate the transport system.

**[7]** Adjust the 4 SETSCREWS in the DRYER DRIVE ASSEMBLY until the DRIVE BELT remains on the center of the DRYER DRIVE ROLLER.

**NOTE**

The DRIVE BELT will track to the higher side of the ROLLER.

**[8]** Wait for the DRYER to attain its operating temperature.

**[9]** When the DRYER has attained its operating temperature, again check that the DRIVE BELT remains on the center of the DRYER DRIVE ROLLER.

**[10]** Tighten the 2 SCREWS loosened in Step 4.

**IMPORTANT**

Be sure not to over tighten the screws.

**[11]** Again check that the DRIVE BELT tracks on the center of the DRYER DRIVE ROLLER. If it does not, repeat Steps 4, 7, and 10.

**[12]** If you are currently in the Diagnostics Mode, exit Diagnostics.

**[13]** Remove the JUMPER used in Step 6 from CONNECTOR P/J 29.

**[14]** Install all parts removed in previous steps.

# SECTION 5
# Plumbing

**IMPORTANT**

All the procedures in this section require that you deenergize the processor before beginning the first step of the service procedure; and many of the procedures require that you remove the TOP COVER, and the ACCESS PANELS from the processor before beginning the procedure. For more information about how to deenergize the processor, see page 1-6. For more information about how to remove the processor's ACCESS PANELS, see pages 1-3 through 1-5.

## Removing the Recirculation Pump

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the NON DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Disconnect CONNECTOR P/J 7.

**[2]** Remove the SPLASH GUARD from over the RECIRCULATION PUMP.

**[3]** Place a CLAMP, TL-2170, on each of the 4 RECIRCULATION TUBES to prevent leakage of replenishment solution.

**[4]** Disconnect each of the 2 RECIRCULATION TUBES at 2 locations.

**[5]** Remove the 2 MOUNTING BOLTS.

**[6]** Remove the RECIRCULATION PUMP.

**[7]** Install the new RECIRCULATION PUMP.

**[8]** Install all parts removed in previous steps.

**[9]** Connect the REPLENISHMENT TUBING.

**[10]** Connect CONNECTOR P/J 7.

**[11]** Check that all cycle speeds are operating correctly and not producing any error codes.

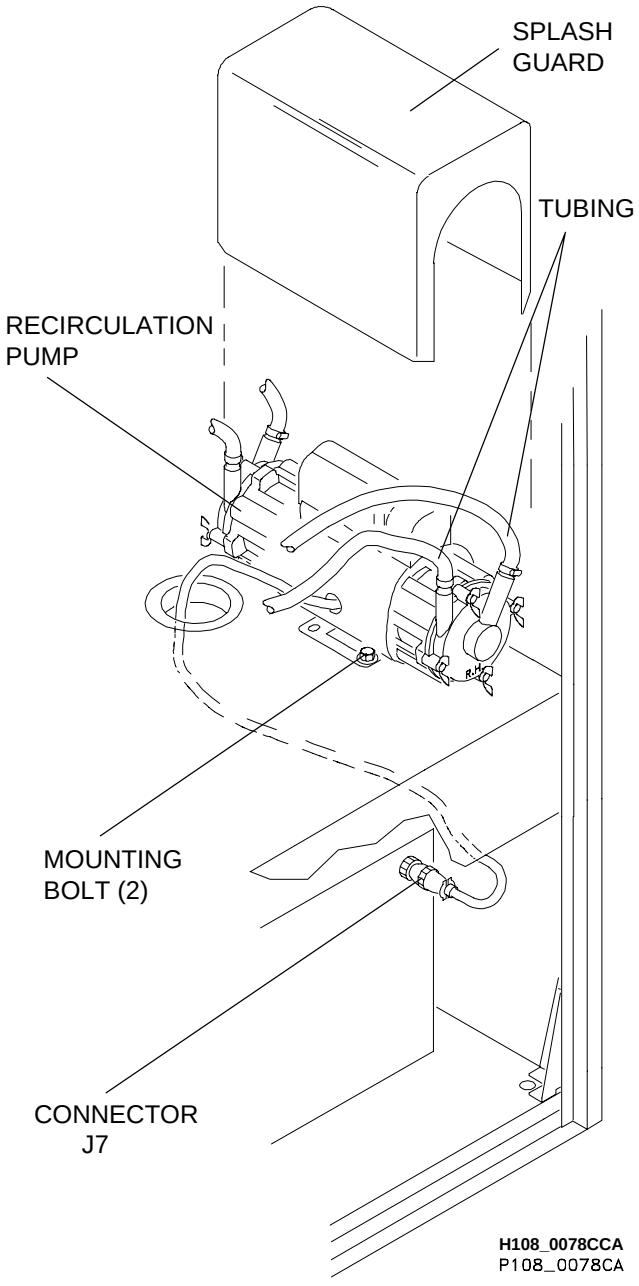



**Figure 5-1 Removing the Recirculation Pump**

**Removing the O-Ring from the Recirculation Pump**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Place a CLAMP, TL-2170, on both of the REPLENISHMENT TUBES to prevent leakage of replenishment solution.

**[2]** Remove the 4 WING NUTS and the OUTER PUMP HOUSING. See Figure 5-2 on page 5-4.

**[3]** Remove the O-RING SEAL.

**[4]** Install a new O-RING SEAL.

**[5]** Install all parts removed in previous steps.

**[6]** Calibrate the REPLENISHMENT SYSTEM. See the Operator Manual.

**[7]** Check the replenishment volumes. See the Operator Manual.

**[8]** Remove the CLAMP from each of the REPLENISHMENT TUBES.

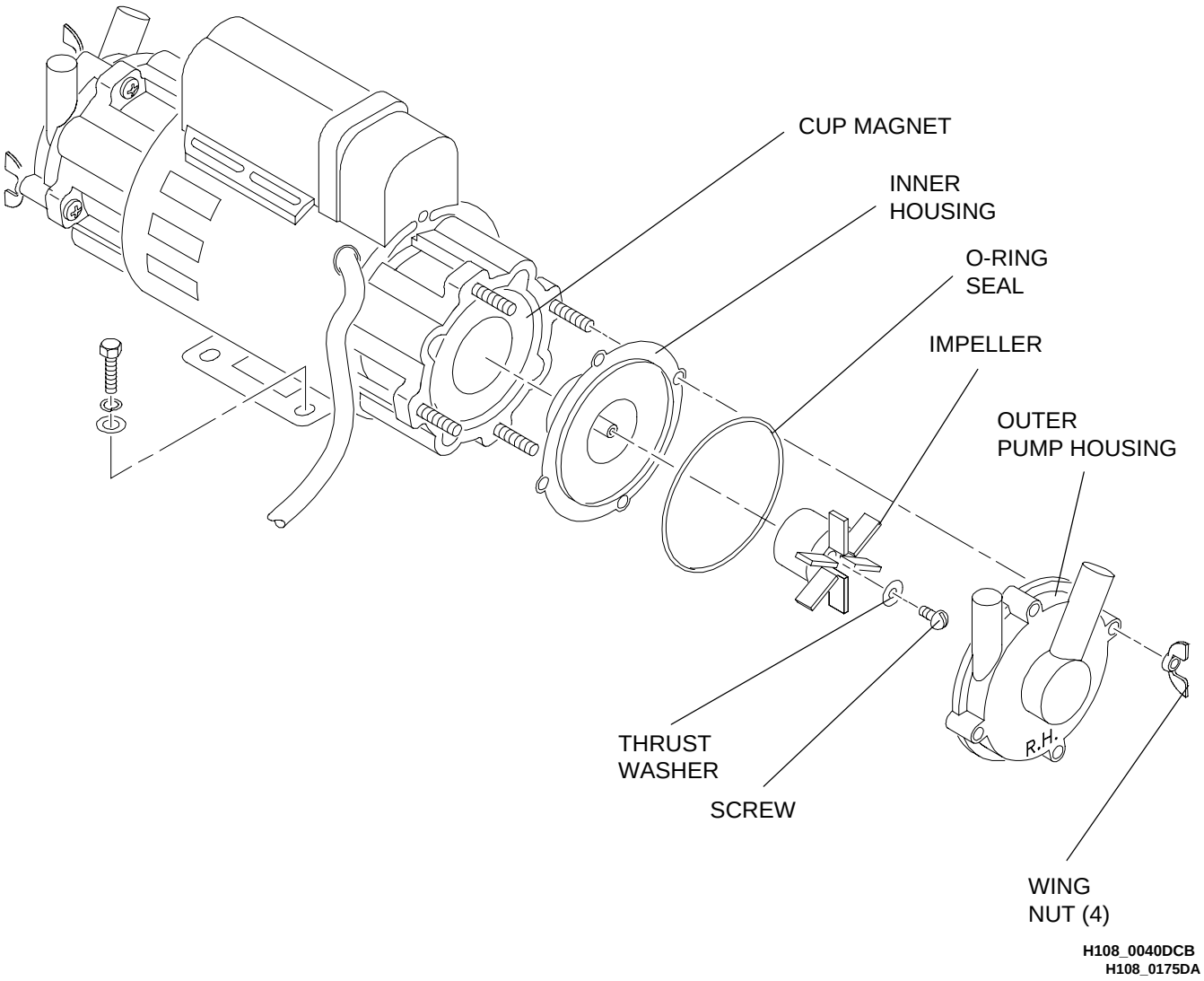



**Figure 5-2 Removing the O-Ring Seal**

## Removing the Replenisher Pumps

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Install CLAMPS onto both of the REPLENISHMENT TUBES to prevent the replenishment solution from draining.

**[2]** Disconnect either CONNECTOR P/J 37 located at the back of the DEVELOPER PUMP COVER, or CONNECTOR P/J 38 located at the back of the FIXER PUMP COVER.

**[3]** Remove the 2 MOUNTING SCREWS.

**[4]** Remove the REPLENISHER PUMP.

**[5]** If necessary, install new parts or, install a new REPLENISHER PUMP. See Figure 5-4 on page 5-6 for the location of parts.

**[6]** Install all parts removed in previous steps and make any necessary connections.

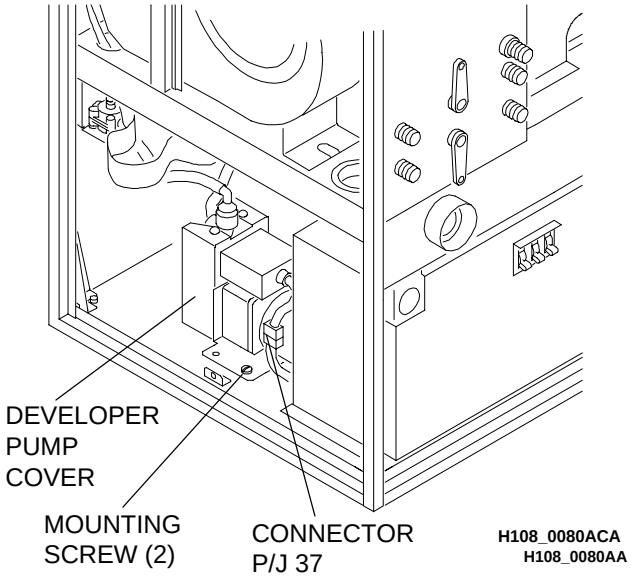



**Figure 5-3 Disconnecting Connectors P/J 37 and P/J 38**

**NOTE**

Make sure you install the SPRING correctly. If you do not, the replenishment system rates and calibration will not be correct.

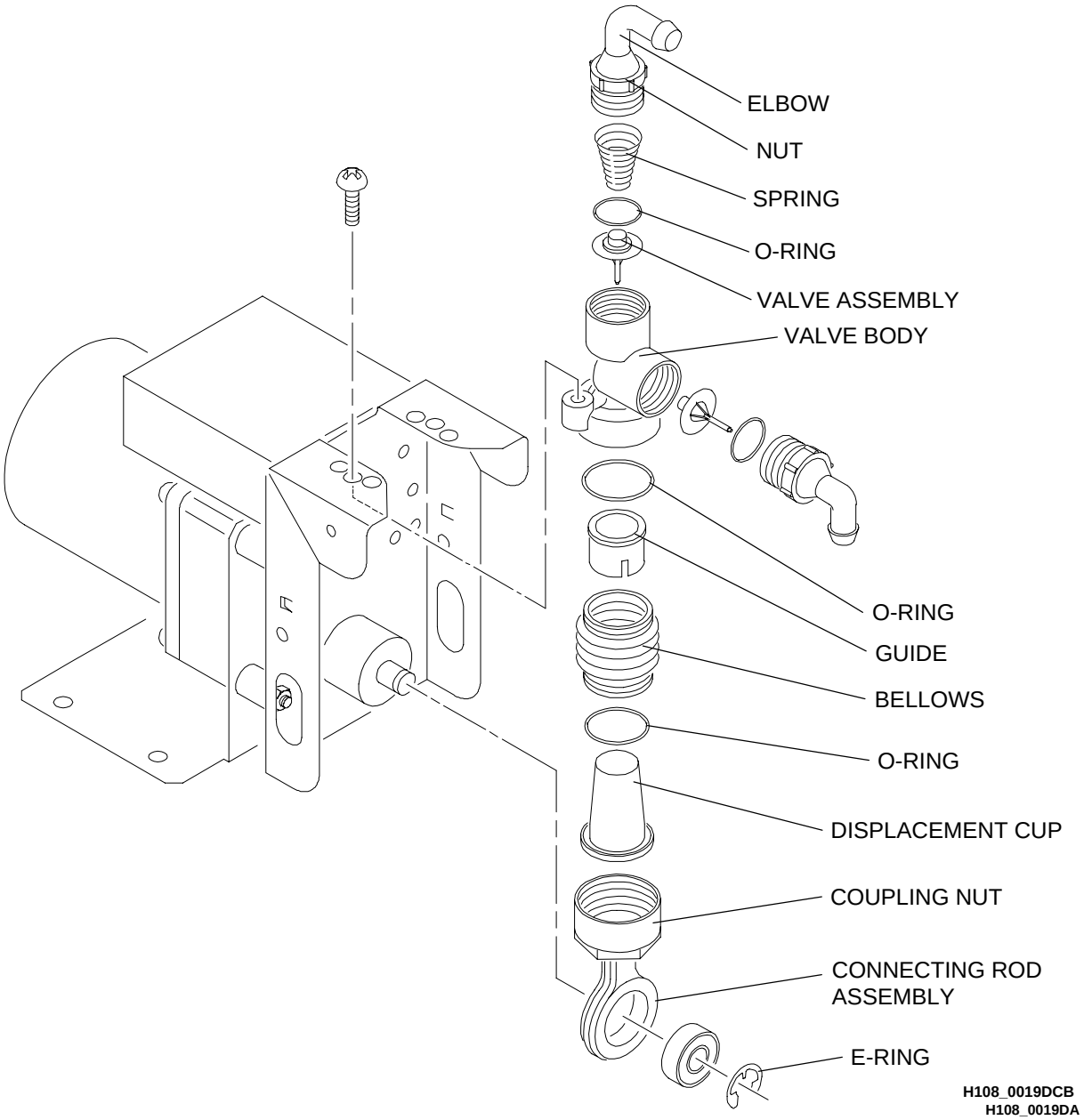



**Figure 5-4 Assembling a Replenisher Pump**

**Removing the Developer or Fixer Heater**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END, MIDDLE and the DRIVE SIDE ACCESS PANELS must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Either—

**(a)** Drain the DEVELOPER and/or FIXER TANK by opening the DEVELOPER and/or FIXER DRAIN VALVES on the FEED END of the processor or,

**(b)** Place a CLAMP on the DEVELOPER or FIXER TUBE leading to the THERMOWELL.

**[2]** Disconnect DEVELOPER HEATER CONNECTOR P8 or FIXER HEATER CONNECTOR P6 from the ELECTRICAL BOX.

**CAUTION**

A small amount of DEVELOPER or FIXER may spill.

**[3]** Remove the HEATER from the THERMOWELL.

**[4]** Check that the HEATER LOCATOR is positioned in the THERMOWELL 13.9 cm (5.50 inches) from the end opposite the HEATER.

**[5]** To install the new HEATER, use SILASIC SEALANT RTV 102 TL-2189 or equivalent. Tighten by hand plus 1/2 turn.

**IMPORTANT**

Overtightening of the HEATER may cause damage to the THERMOWELL.

**[6]** Make the necessary connections.

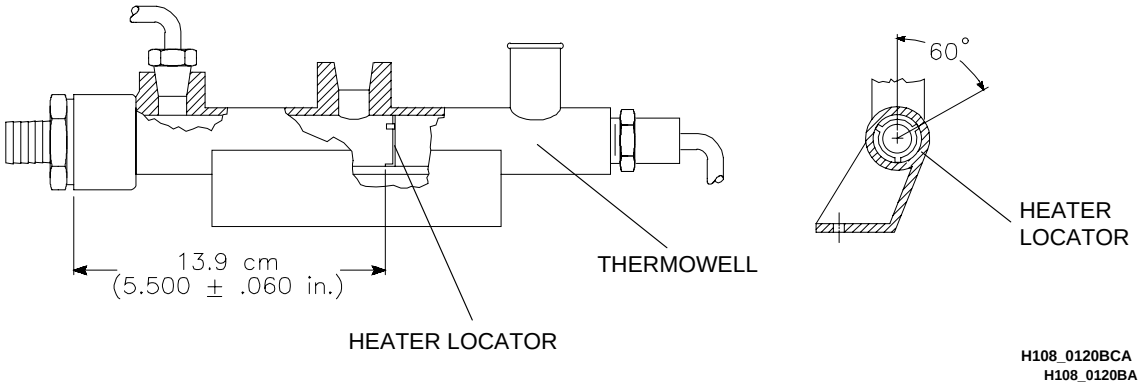



**Figure 5-5 Checking Heater Locator Positioning**

**Removing the Developer or Fixer Thermistor**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END MIDDLE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Either drain the DEVELOPER and/or FIXER TANK, or place CLAMPS on the DEVELOPER or FIXER TUBES leading to the THERMOWELL.

**[2]** Disconnect the DEVELOPER THERMISTOR P46 or the FIXER THERMISTOR P44. See Figure 5-6 on page 5-9.

**[3]** Remove the THERMISTOR from the THERMOWELL.

**CAUTION**

A small amount of DEVELOPER or FIXER may spill.

**[4]** To install the new THERMISTOR, use SILASTIC SEALANT RTV 102 TL-2189 or equivalent.

**CAUTION**

To prevent cracking of the THERMOWELL BODY, use caution when assembling the THERMISTOR and tighten by HAND plus 1/2 turn.

**[5]** Make the necessary connections.

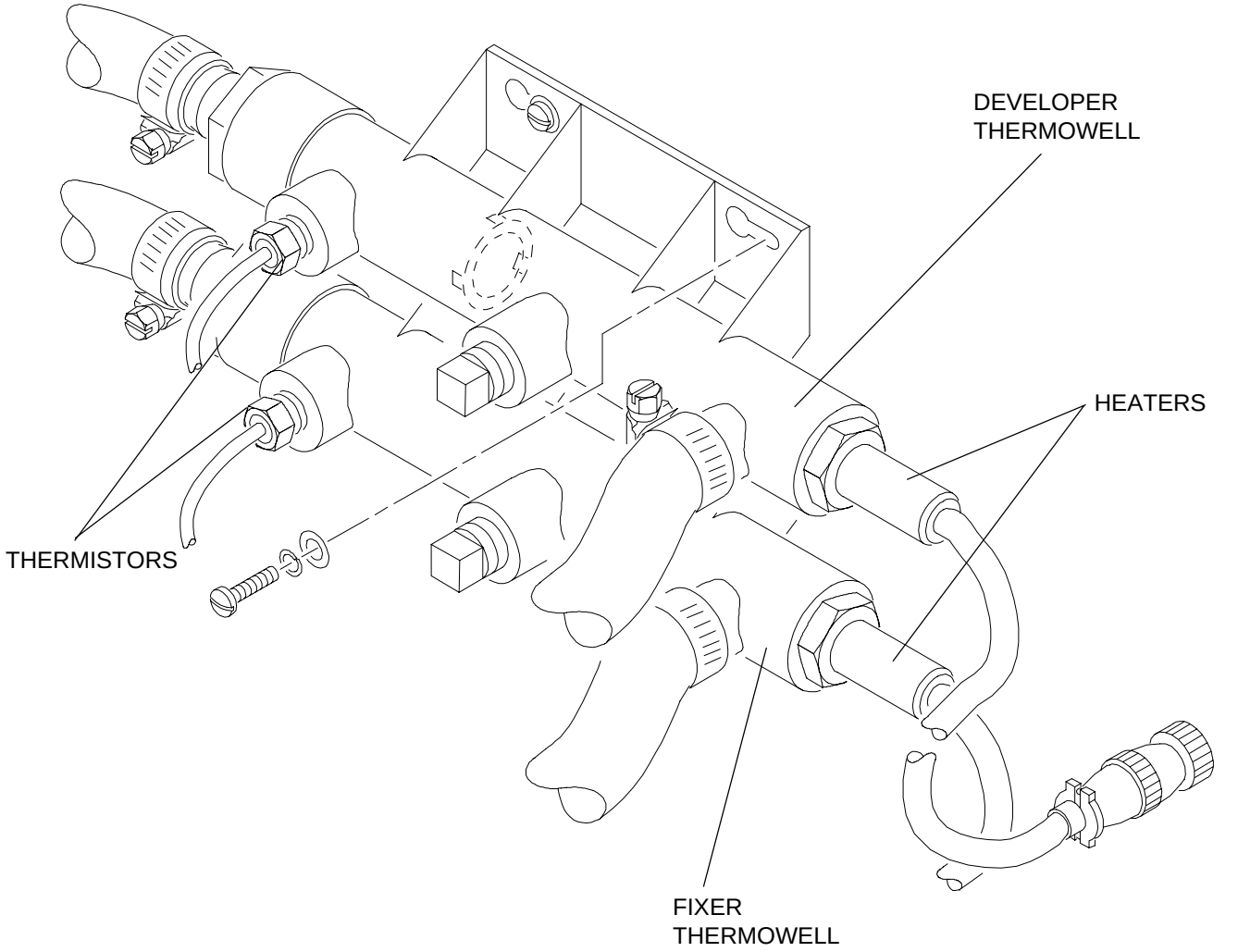



**Figure 5-6 Installing Thermistors**

## Removing the Developer Filter Canister

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Drain the DEVELOPER TANK by opening the DEVELOPER DRAIN VALVE on the FEED END of the processor.

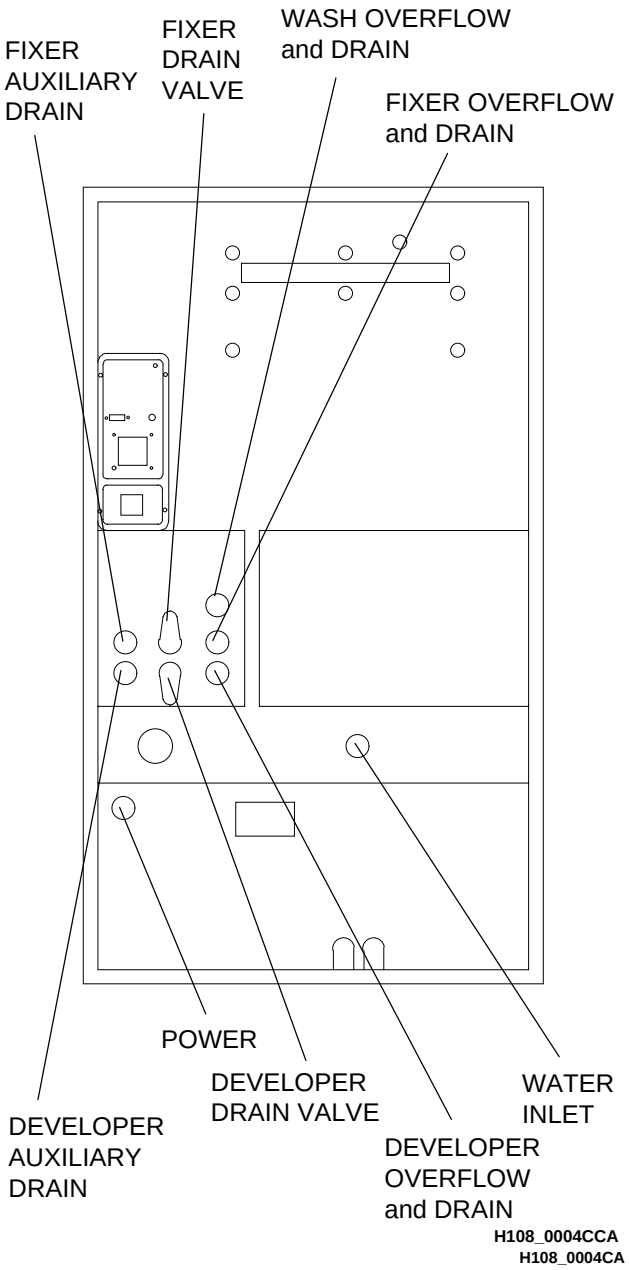



**Figure 5-7 Opening the Developer Drain Valve**

**[2]** Remove the FILTER CAP.

**[3]** Remove the DEVELOPER FILTER.

**[4]** Disconnect the 2 HOSES from the FILTER CANISTER.

**[5]** Push the LATCH and lift the FILTER CANISTER out of the processor.

**[6]** Install the new FILTER CANISTER.

**[7]** Connect the 2 HOSES to the FILTER CANISTER.

**[8]** Install the new DEVELOPER FILTER and FILTER CAP.

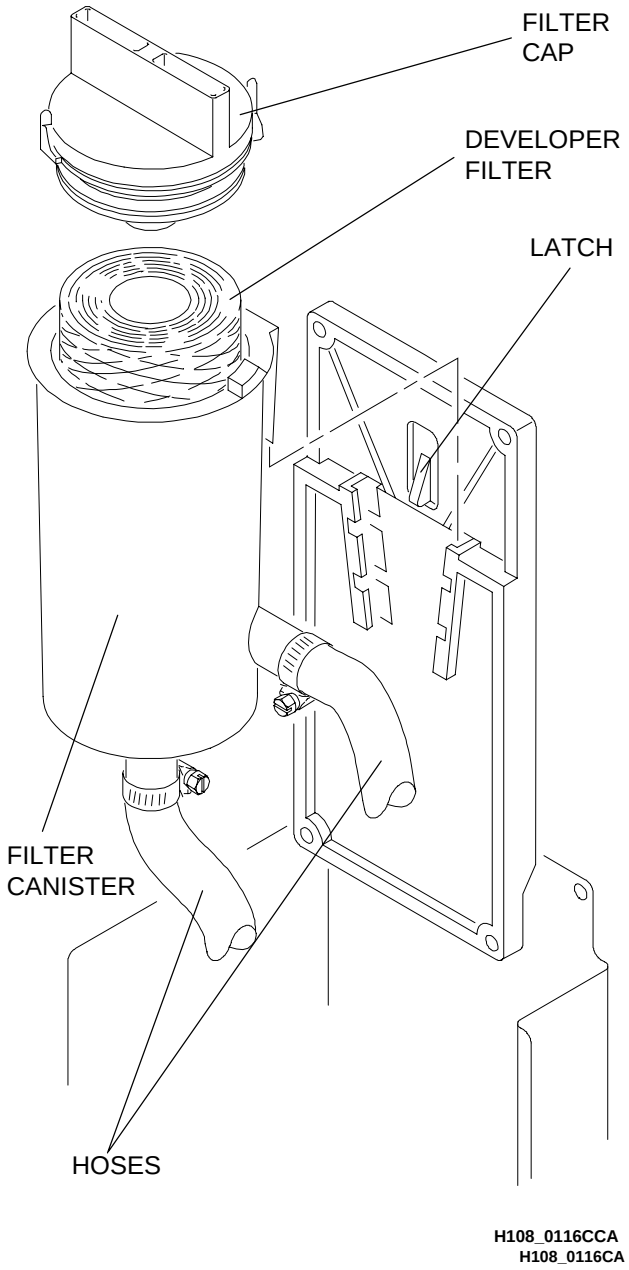



**Figure 5-8 Removing the Developer Filter Canister**

## Removing the Developer Heat Exchanger

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and both SIDE ACCESS PANELS must be removed from the processor. See page 1-3 through 1-5 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Drain the DEVELOPER TANK by opening the DEVELOPER DRAIN VALVE on the FEED END of the processor.

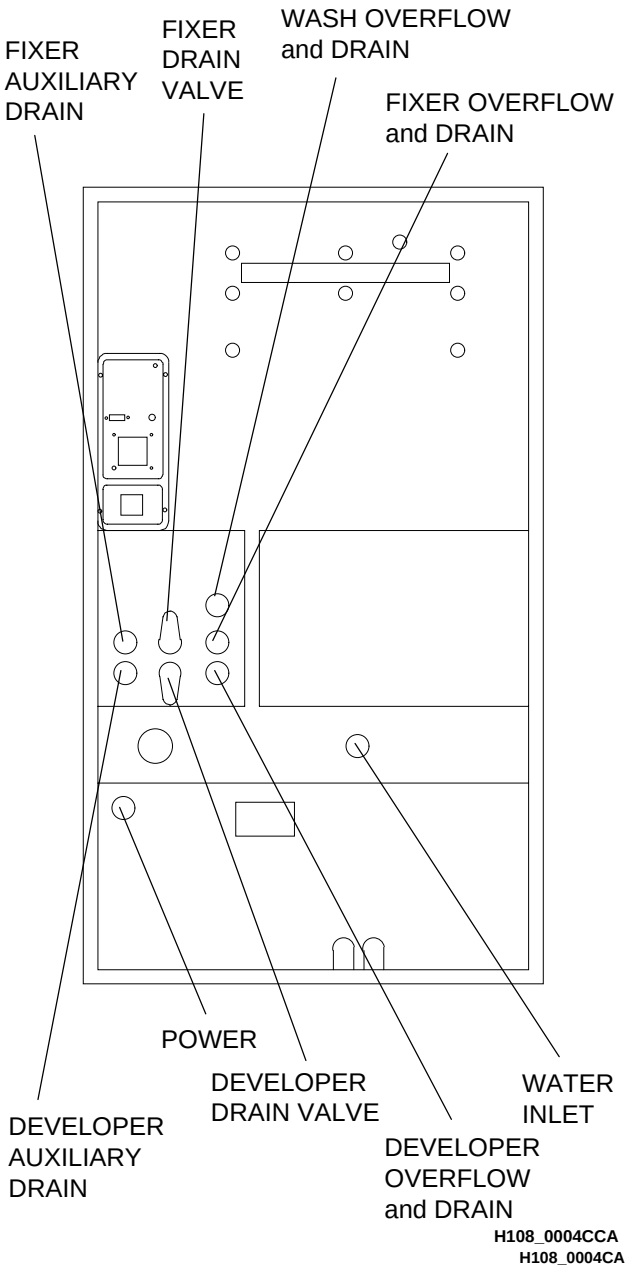



**Figure 5-9 Opening the Drain Valve**

**[2]** Remove the DETECTOR CROSSOVER ASSEMBLY from the processor.

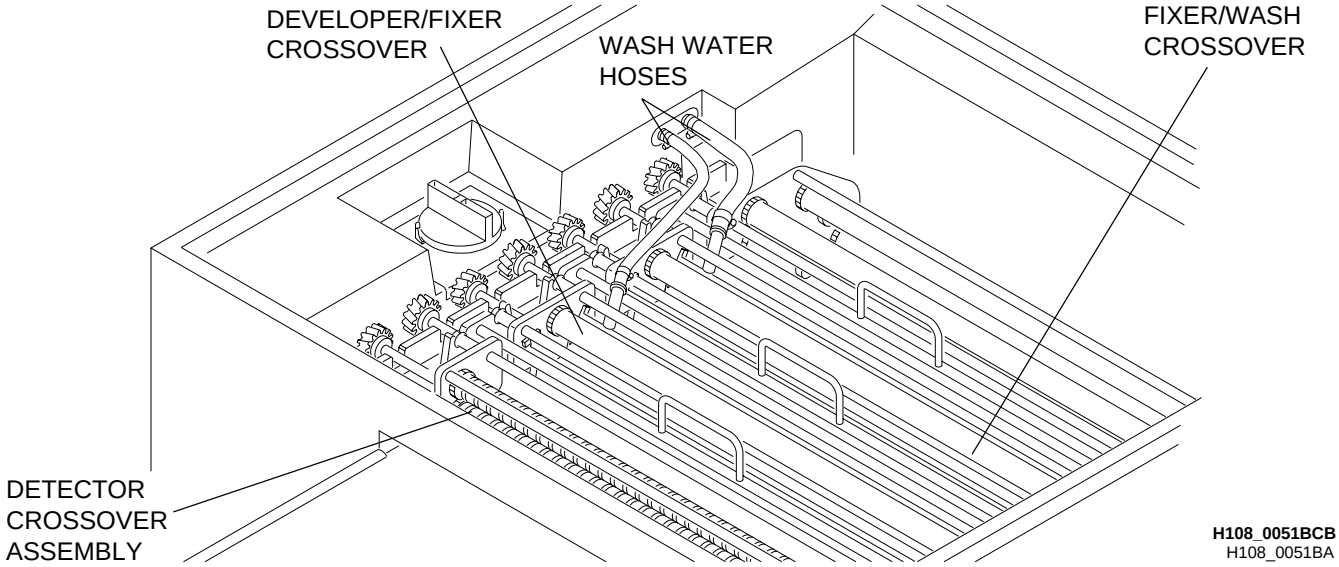



**Figure 5-10 Removing Crossovers and Disconnecting the Water Hose**

**[3]** Disconnect the WATER HOSE from the DEVELOPER/FIXER CROSSOVER ASSEMBLY.

**[4]** Remove the DEVELOPER/FIXER CROSSOVER ASSEMBLY.

**[5]** Remove the DEVELOPER RACK. Use the RACK DRIP TRAY to prevent contamination of the other solutions.

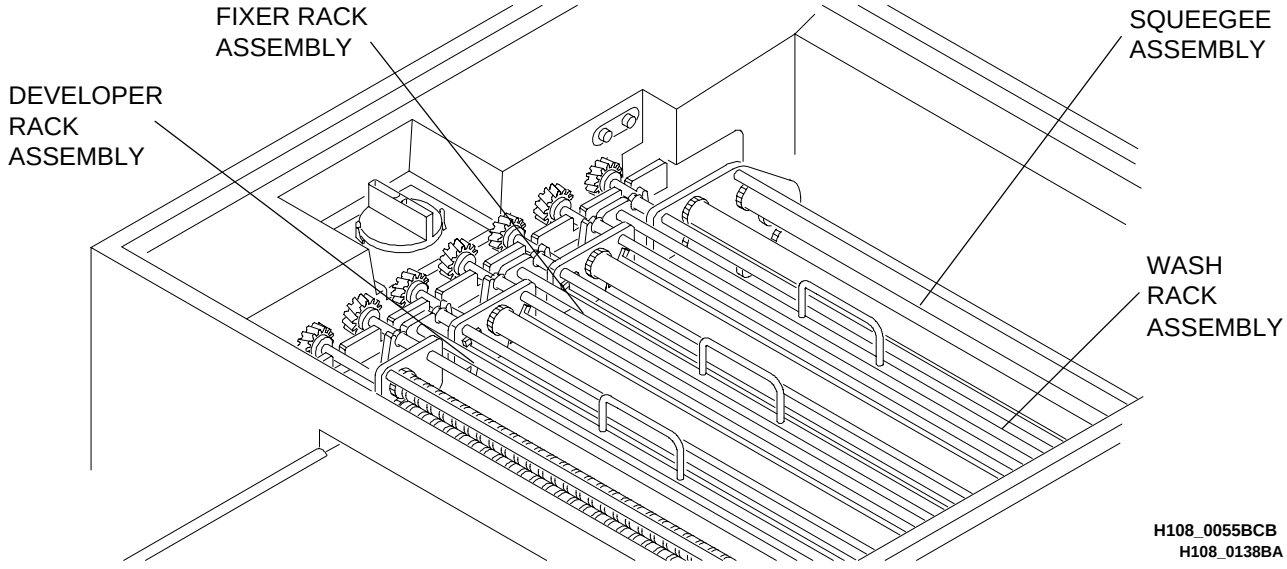



**Figure 5-11 Removing the Developer Rack**

**[6]** Remove the DEVELOPER HEAT EXCHANGER COVER from the bottom of the DEVELOPER TANK.

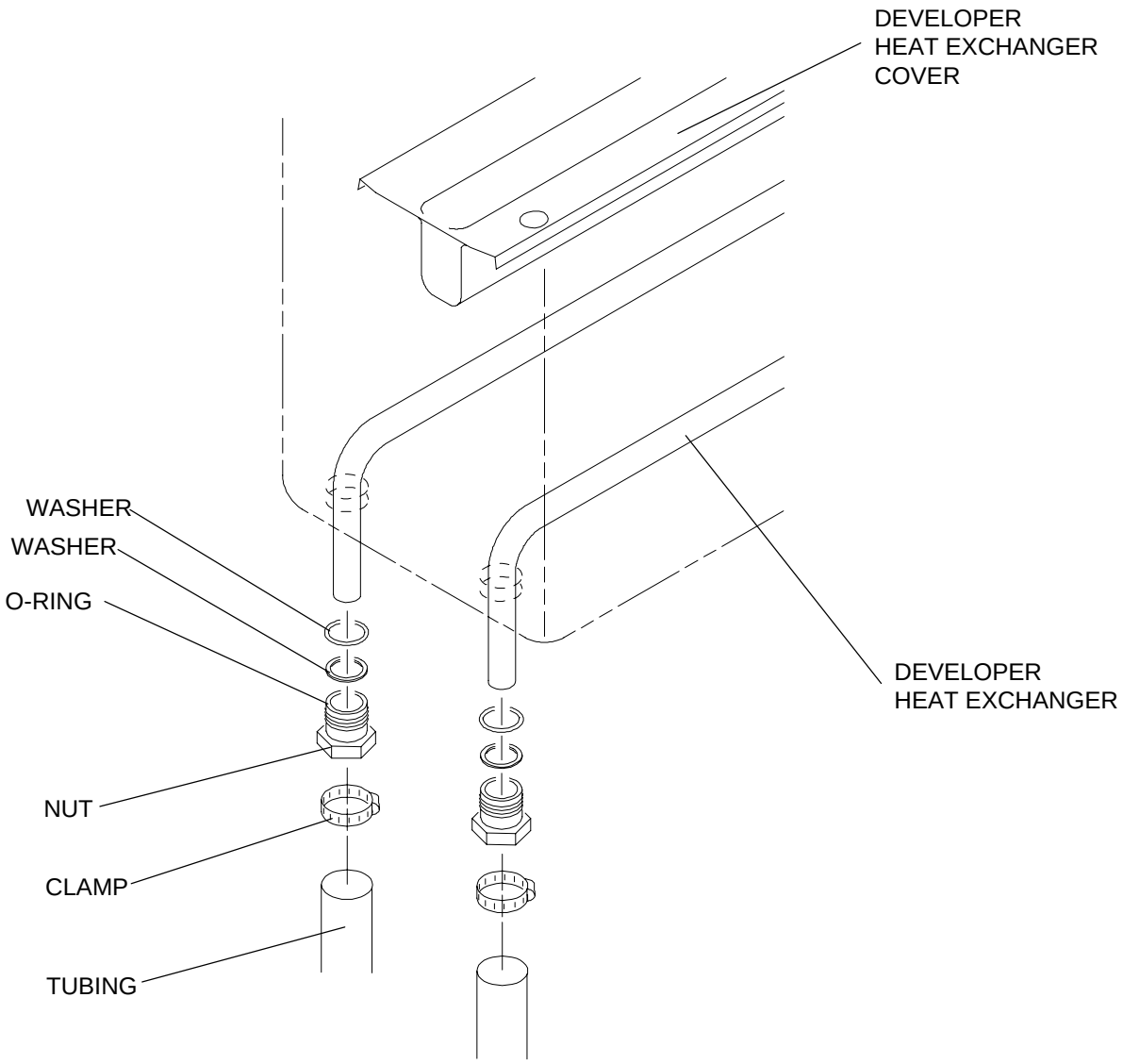
**[7]** Loosen the 2 CLAMPS securing the TUBING to the HEAT EXCHANGER. Remove the TUBING.

**[8]** Remove the 2 NUTS from the DEVELOPER HEAT EXCHANGER. Keep the O-RINGS and WASHERS for reassembly.

**[9]** Remove the DEVELOPER HEAT EXCHANGER from the DEVELOPER TANK.

**[10]** Install the new DEVELOPER HEAT EXCHANGER into the DEVELOPER TANK.

**[11]** Install all parts removed in previous steps and make the necessary connections.

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H108_0147DA

**Figure 5-12 Removing the Developer Heat Exchanger**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER, both SIDE ACCESS PANELS, and the FEED-END, LOWER ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Drain the DEVELOPER and FIXER TANKS by opening the 2 DRAIN VALVES on the FEED END of the processor.

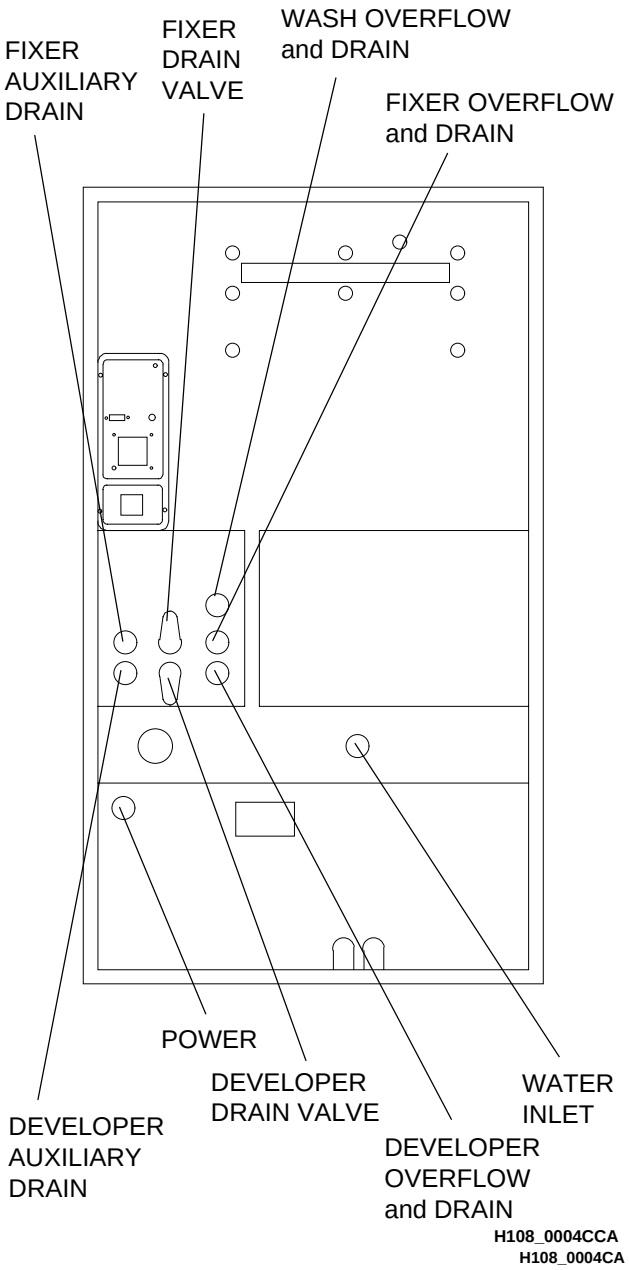


**Figure 5-13 Opening the Developer and Fixer Drain Valve**

**[2]** Remove the SPLASH GUARDS from the processor.

**[3]** Remove all RACKS and CROSSOVERS from the processor.

**[4]** Remove the FILTER CANISTER and DRIP PAN ASSEMBLIES.

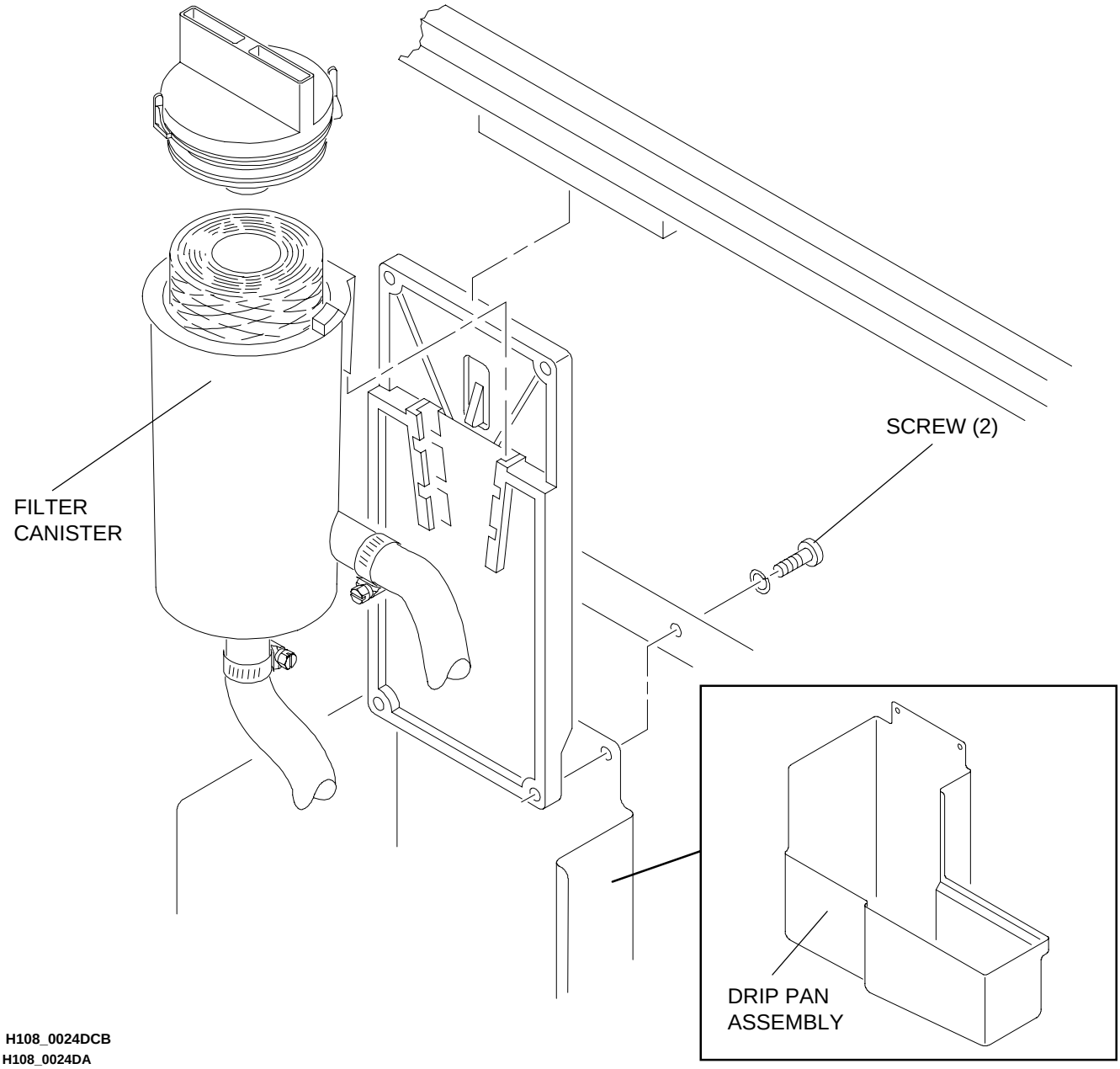


**Figure 5-14 Removing the Filter Canister and Drip Pan**

**[5]** Remove the DRIVE MOTOR and BRACKET ASSEMBLY.

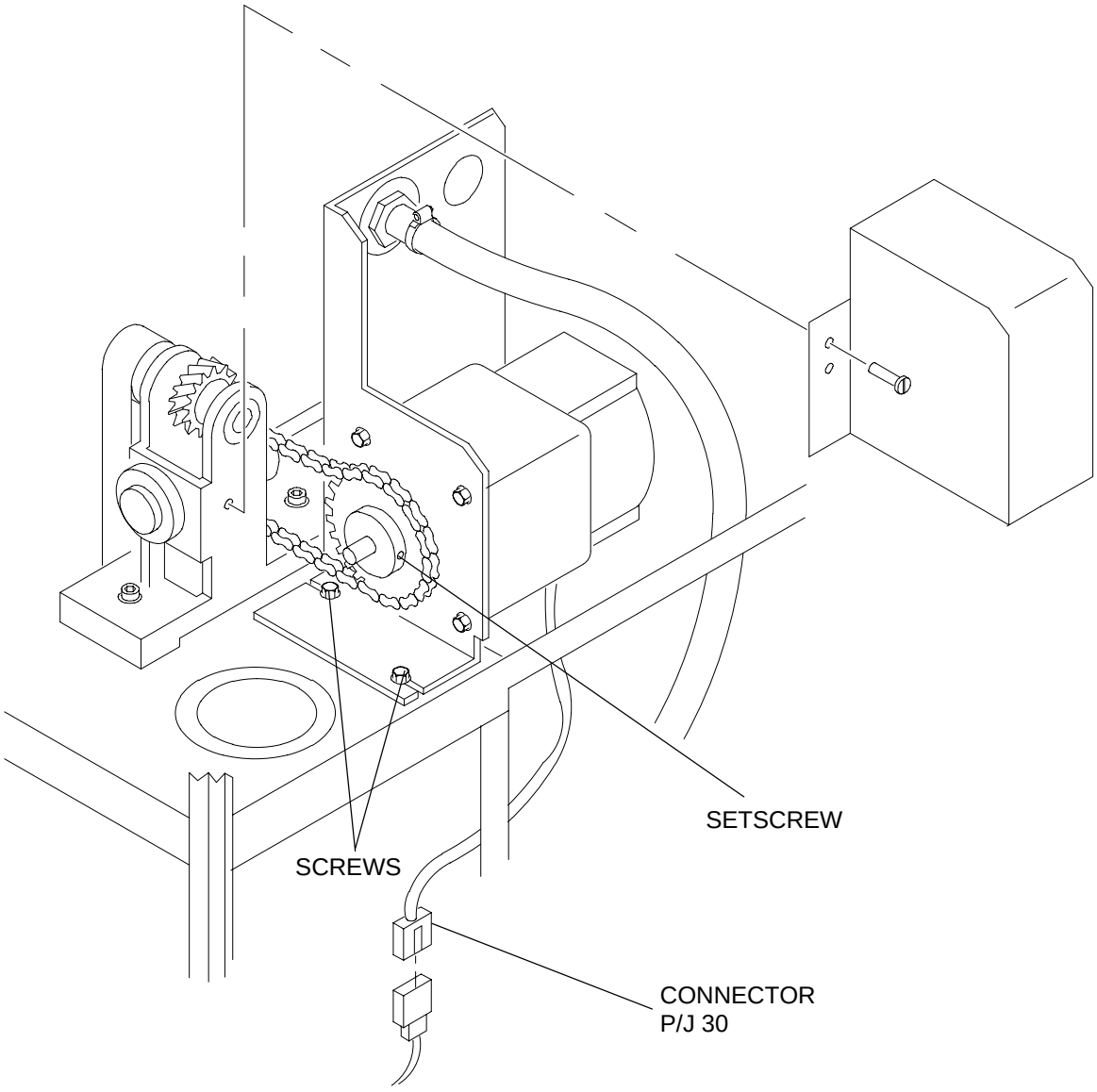


**Figure 5-15 Removing the Drive Motor**

**[6]** Remove the 5600 Circiut Board Assembly.

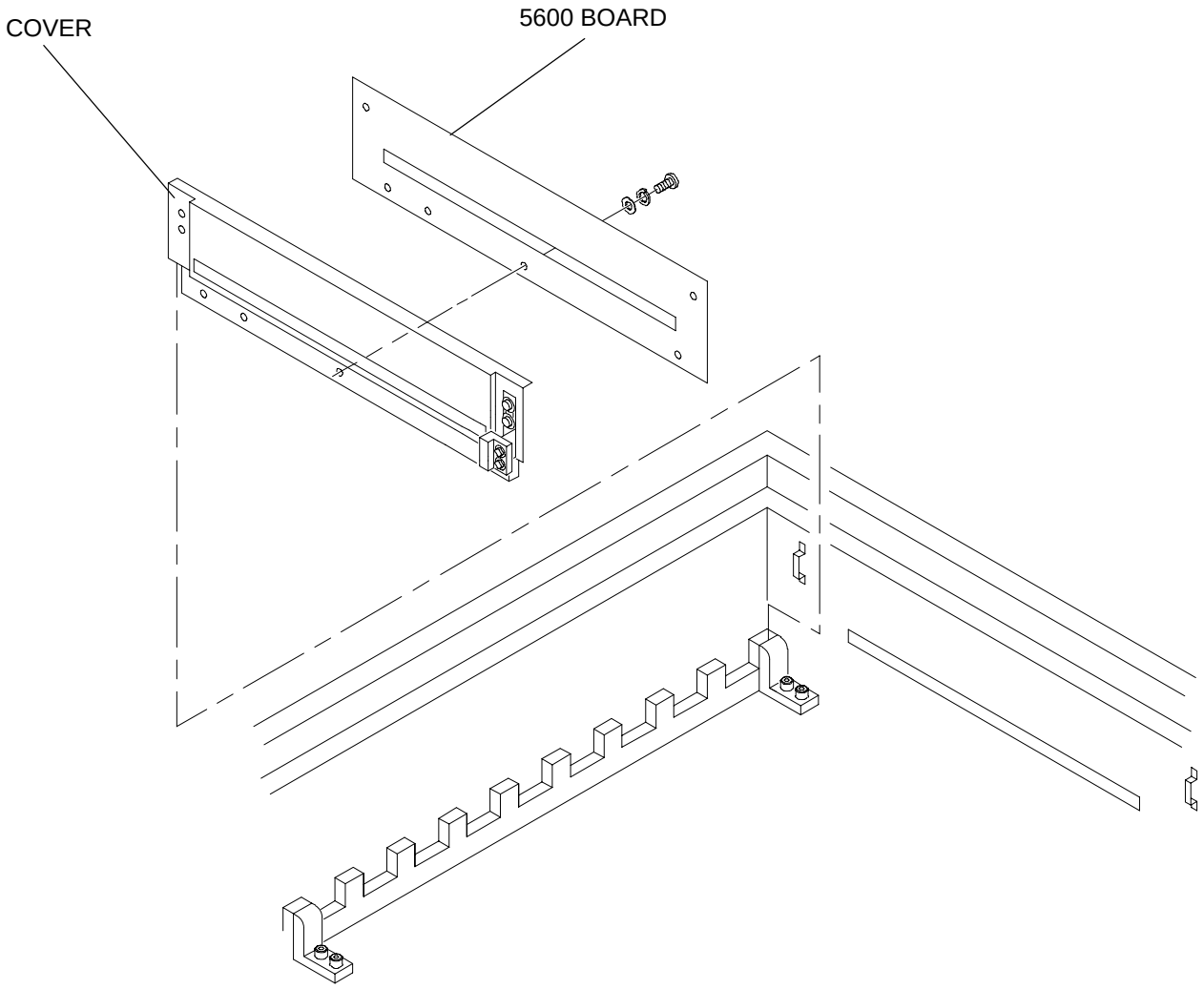


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**Figure 5-16 Removing the 5600 Circuit Board**

**[7]** Remove the 4 SCREWS securing the RACK SUPPORT/DRYER DRIVE ASSEMBLY to the processor.

**[8]** Remove the RACK SUPPORT/DRYER DRIVE ASSEMBLY from the processor.

**[9]** Remove the 4 SCREWS securing the RACK SUPPORT ASSEMBLY to the NON-DRIVE side of the processor.

**[10]** Remove the RACK SUPPORT ASSEMBLY from the processor.

**[11]** Remove the 4 SCREWS supporting the THERMOWELLS.

**[12]** Move the THERMOWELLS to access and remove the 3 SCREWS securing the BRACKET to the bottom of the DEVELOPER TANK. See Figure 5-18.

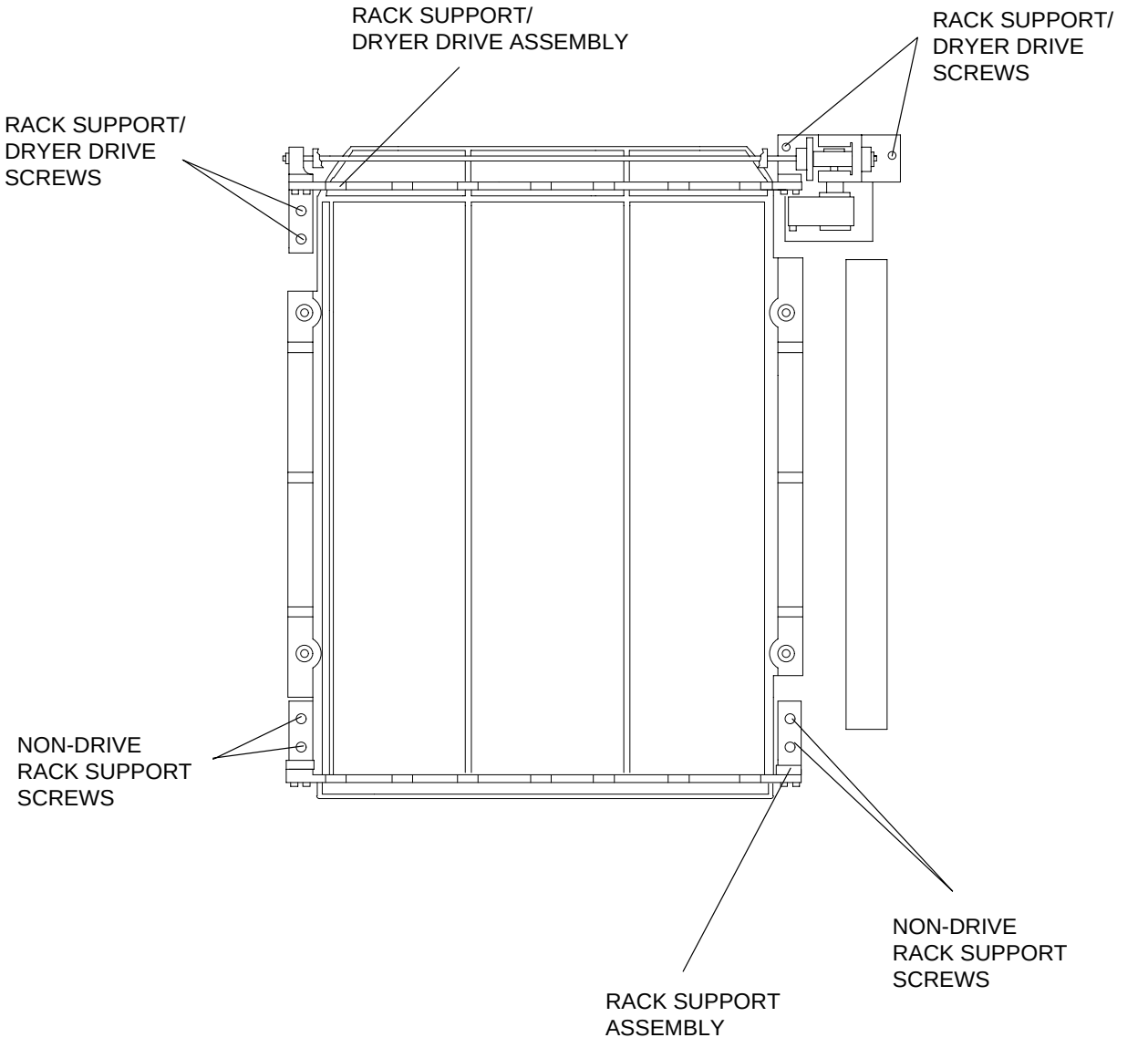
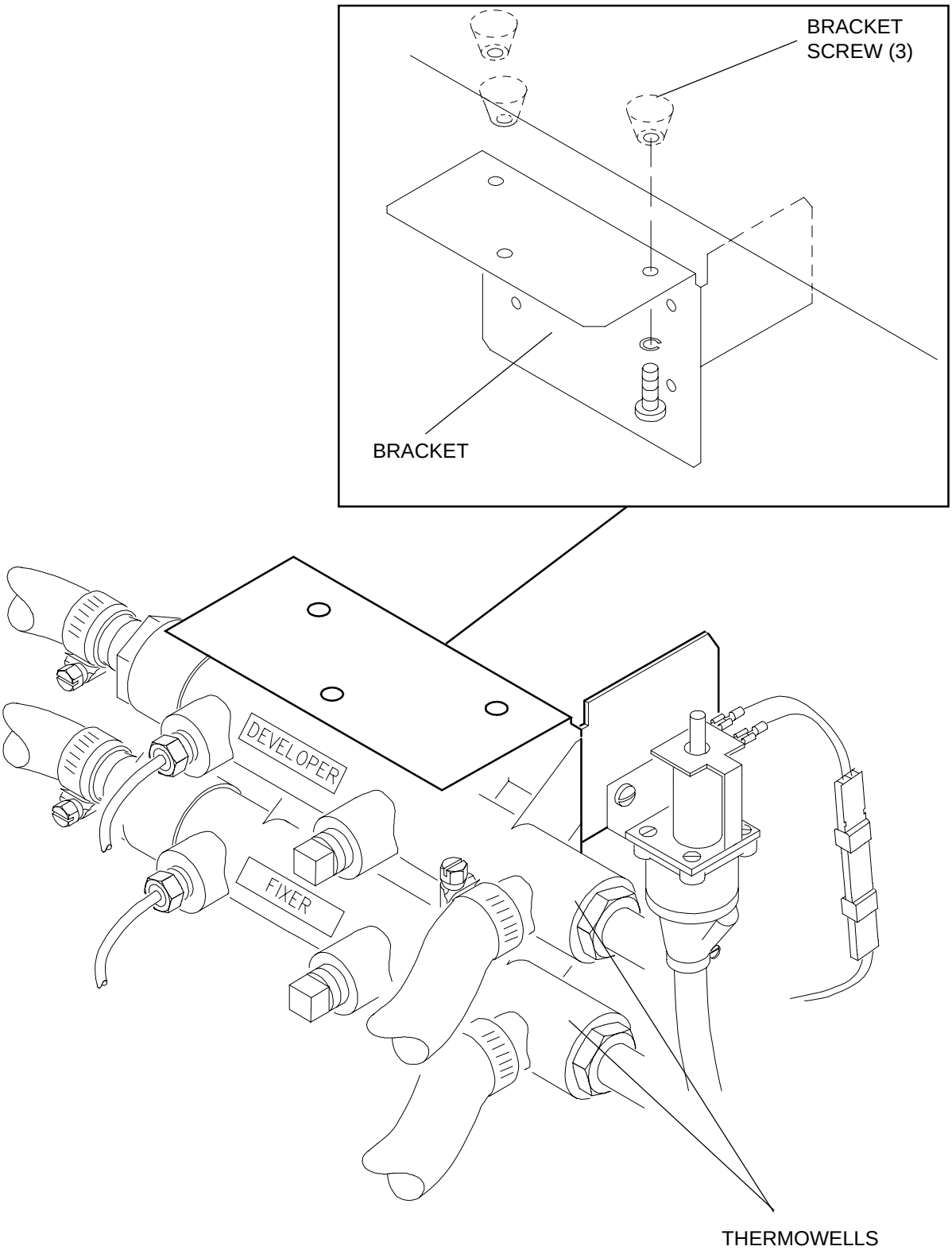



**Figure 5-17 Removing the Rack Supports — Top View**

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H108_0157EA

**Figure 5-18 Removing the Developer Tank Bracket**

**NOTE**

After draining the TANKS, small amounts of solution will remain in the plumbing system. Be prepared to wipe up any spills.

**NOTE**

While doing Steps 13, 14, and 15, place a MARK on each TUBE as you remove it from the TANK so that you can identify each TUBE for reassembly.

**[13]** Remove DRAIN TUBING from the WASH TANK.

**[14]** Remove all TUBING connected to the sides and bottom of the FIXER TANK.

**[15]** Remove all TUBING connected to the sides and bottom of the DEVELOPER TANK.

**[16]** Remove the 4 HEX SOCKET SCREWS securing the TANK ASSEMBLY to the processor FRAME.

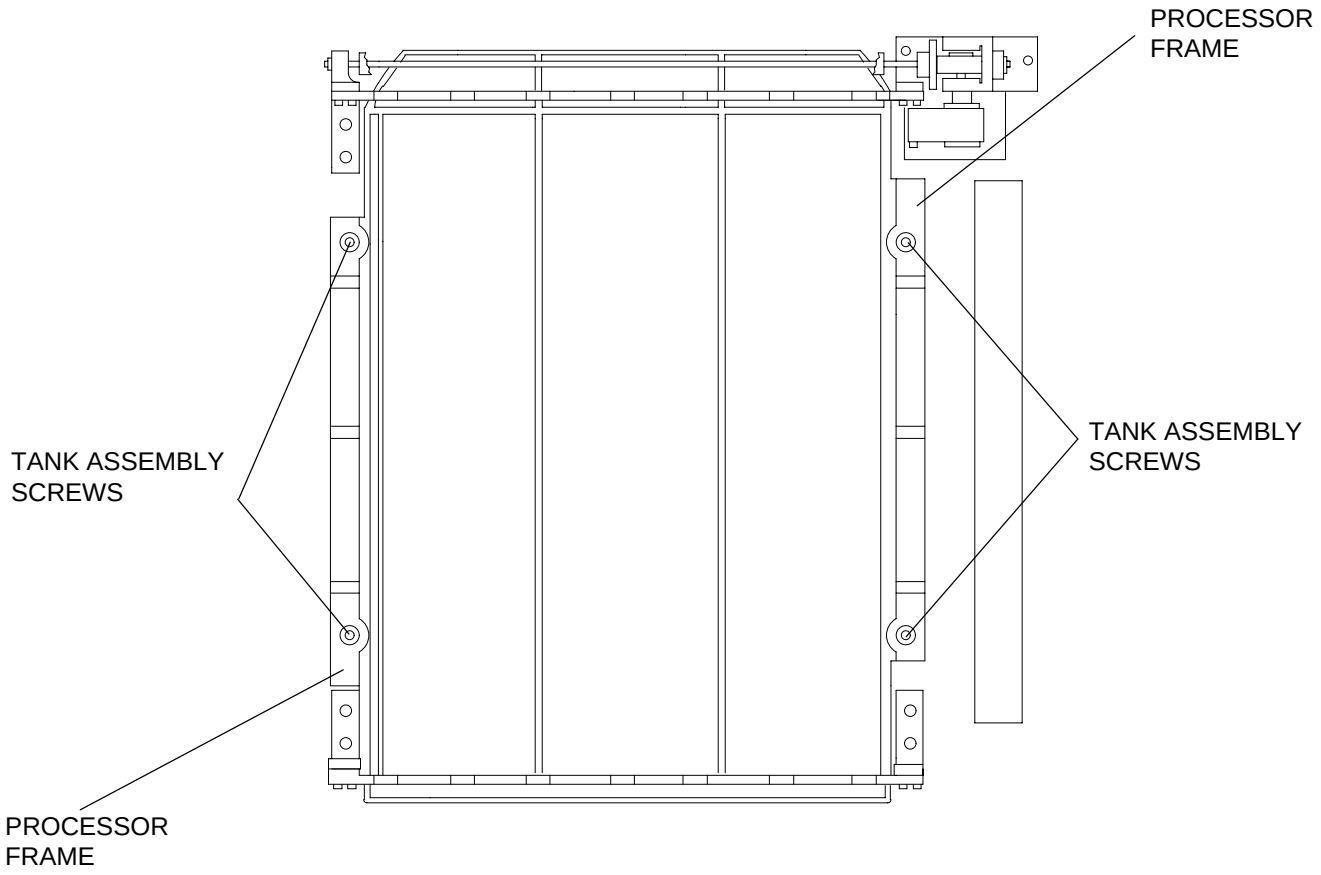


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**Figure 5-19 Removing the Tank Assembly — Top View**

**[17]** Lift the TANK ASSEMBLY out of the PROCESSOR FRAME.

**[18]** Keep the FRICTION PLATES for assembly of the new TANK ASSEMBLY.

**[19]** Install the new TANK ASSEMBLY.

**[20]** Install all parts removed in previous steps and connect the WATER HOSE.

## Removing the Developer and Fixer Drain Valves

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER, both SIDE ACCESS PANELS, and the FEED-END, MIDDLE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Drain the DEVELOPER and FIXER TANKS by opening the DEVELOPER and FIXER DRAIN VALVES on the FEED END of the processor.

**[2]** Remove the HANDLE from the DEVELOPER or FIXER DRAIN VALVE ASSEMBLY.

**[3]** Remove the CLAMP and CAP from the DEVELOPER or FIXER AUXILIARY DRAIN.

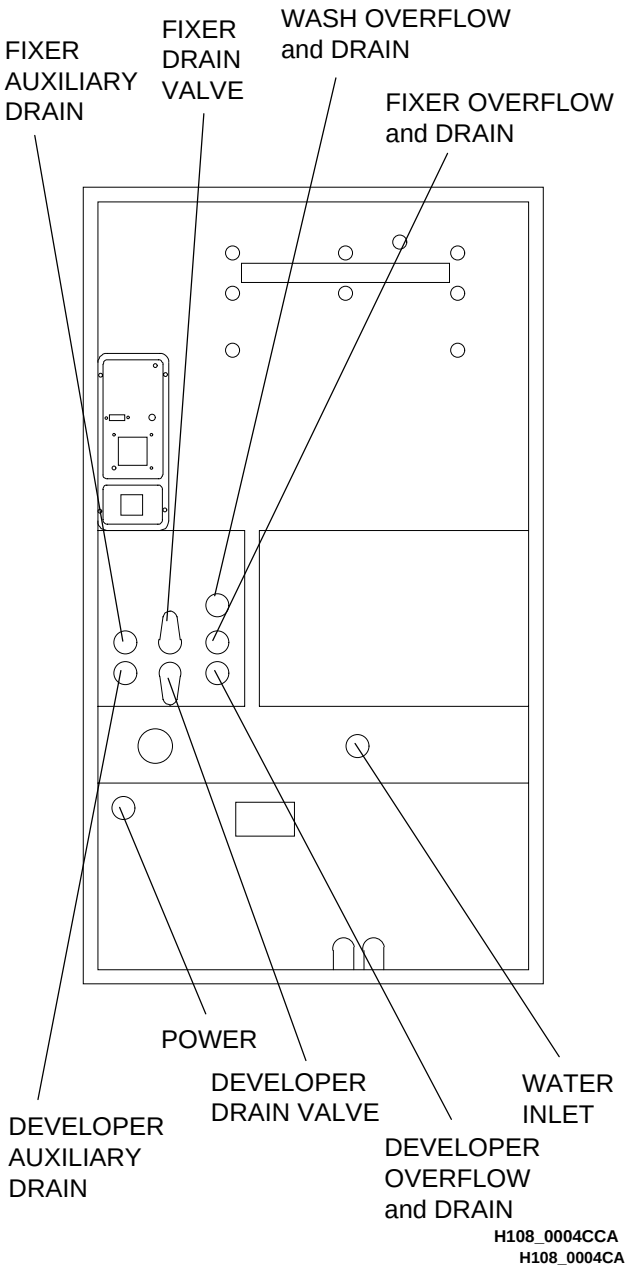


**Figure 5-20 Opening the Developer and Fixer Drain Valves**

**[4]** Remove the 5 SCREWS from the DRAIN PANEL.

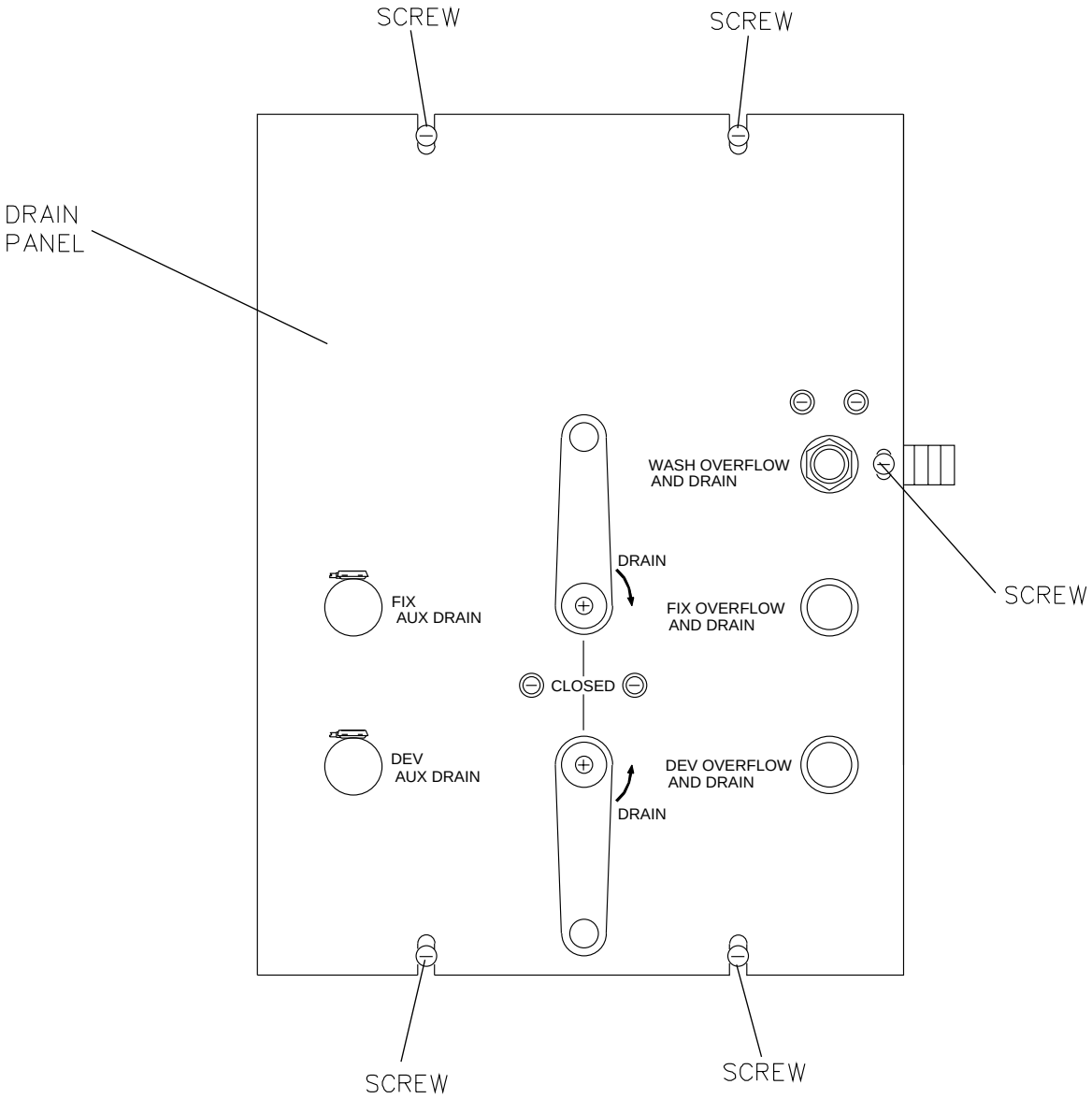


**Figure 5-21 Removing the Drain Panel Screws**

**[5]** Pull the DRAIN PANEL away from the processor FRAME enough to access the HOSE CLAMPS with a screwdriver.

**[6]** Loosen the 3 HOSE CLAMPS on the DRAIN VALVE ASSEMBLY.

**[7]** Remove the 3 HOSES from the DRAIN VALVE ASSEMBLY.

**[8]** Remove the 2 SCREWS from the DRAIN VALVE BRACKET. See the figure.

**[9]** Remove the DRAIN VALVE ASSEMBLY from the DRAIN PANEL.

**[10]** Remove the 2 NIPPLE/ELBOW/TEE ASSEMBLIES from the OUTPUT SIDES of the DRAIN VALVE.

**[11]** Remove the ELBOW from the INPUT SIDE of the DRAIN VALVE.

**[12]** Install the new DRAIN VALVE.

**[13]** Install all parts removed in previous steps.

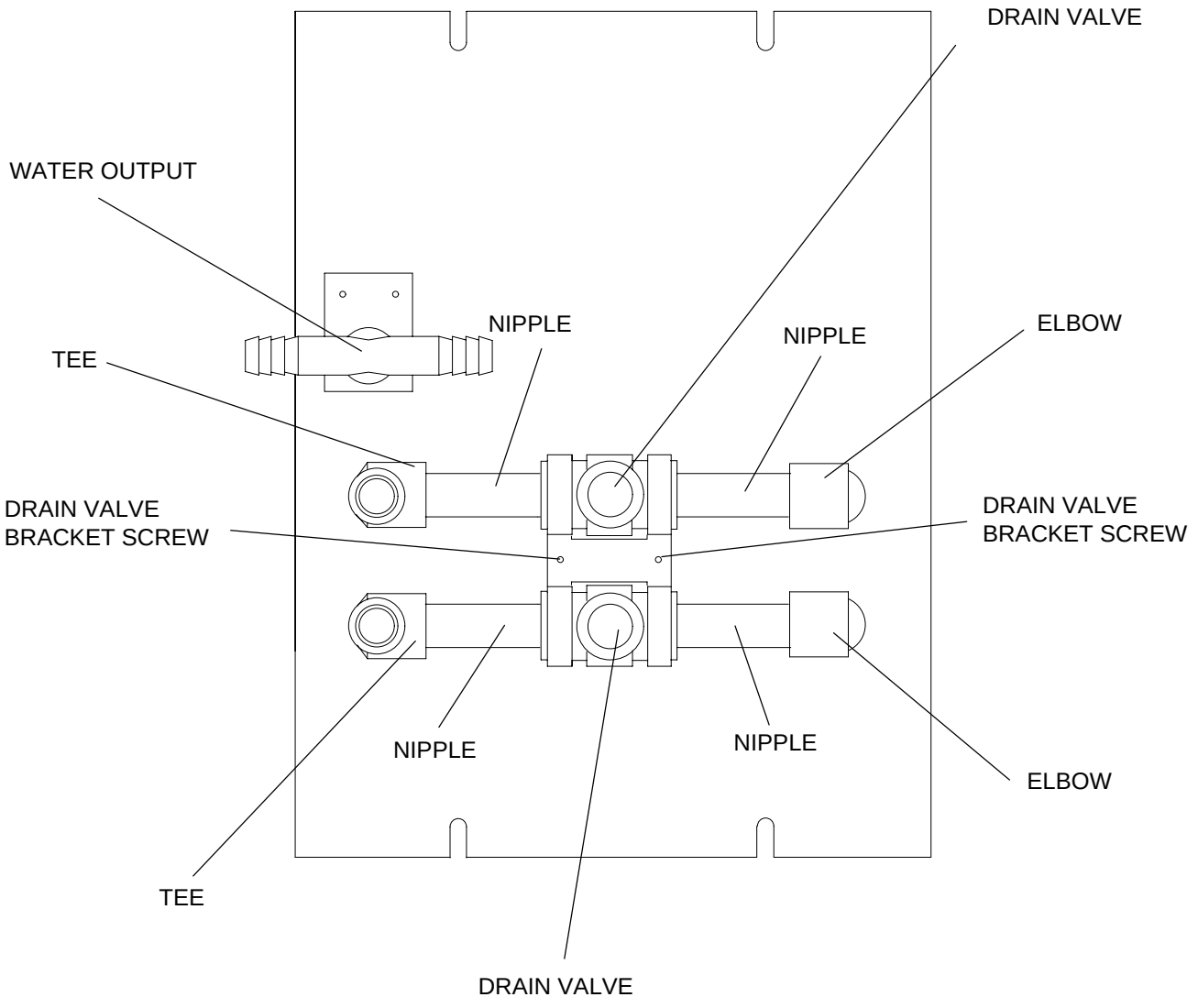


**Figure 5-22 Removing the Drain Valve Bracket**

**Removing the Replenishment Control Valves**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Place a CLAMP on the INPUT and OUTPUT HOSES of the REPLENISHMENT CONTROL VALVE to be removed.

**[2]** Loosen the HOSE CLAMPS and remove the HOSES from the REPLENISHMENT CONTROL VALVE.

**[3]** Remove the HANDLE from the REPLENISHMENT CONTROL VALVE.

**[4]** Remove the SCREW securing the BRACKET to the REPLENISHEMENT CONTROL VALVE.

**[5]** Remove the REPLENISHMENT CONTROL VALVE from the processor.

**[6]** Install the new REPLENISHMENT CONTROL VALVE.

**[7]** Install all parts removed in previous steps and make the necessary connection.

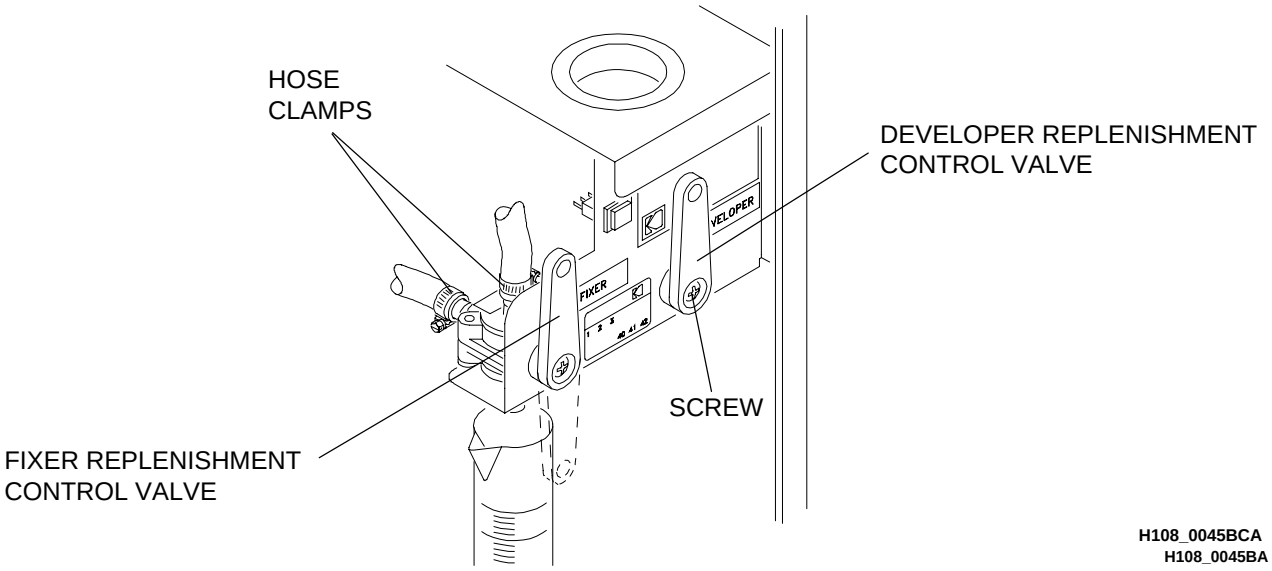


**Figure 5-23 Removing the Replenishment Control Valves**

## Removing the Incoming Water Solenoid

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END, LOWER ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Disconnect the SPADE CONNECTORS. See Figure 5-24.

**[2]** Loosen the HOSE CLAMP.

**[3]** Remove the HOSE and disconnect the INCOMING WATER CONNECTION.

**[4]** Remove the 2 SCREWS.

**[5]** Remove the INCOMING WATER SOLENOID from the processor.

**[6]** Install the new INCOMING WATER SOLENOID.

**[7]** Install all parts removed in previous steps and make the necessary connections.

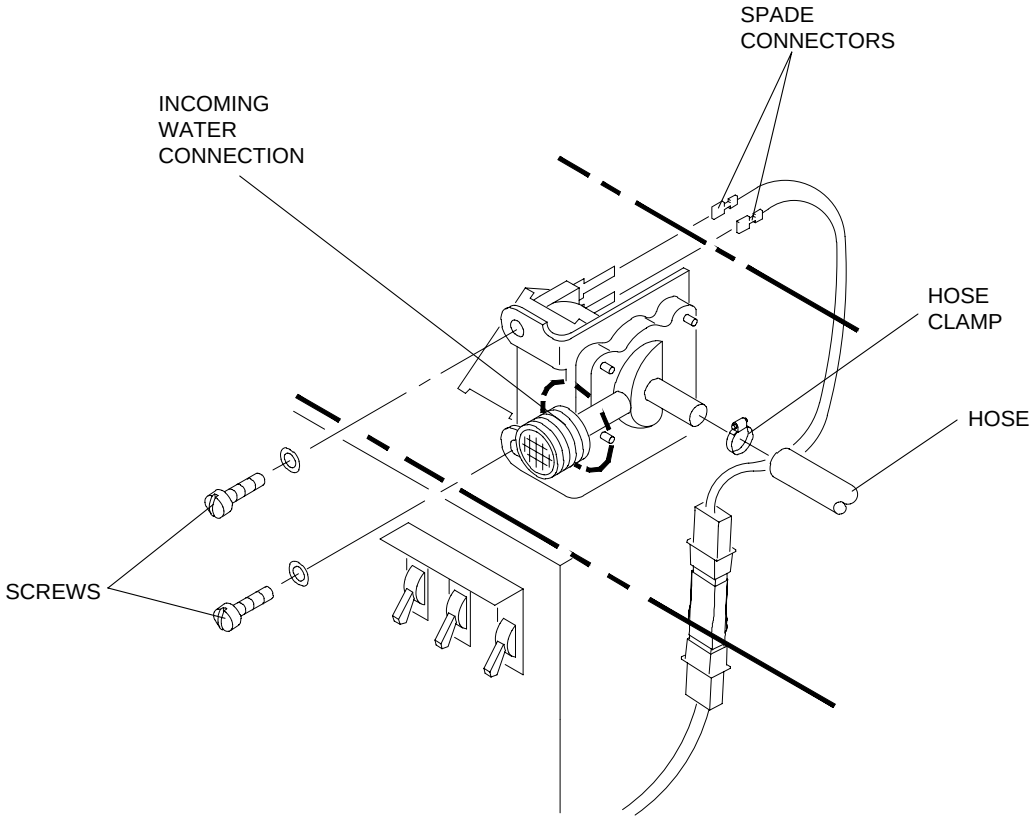


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**Figure 5-24 Removing the Incoming Water Solenoid**

**Removing the Wash Drain Solenoid**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER and the NON-DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-6 for instructions, if necessary. Also make sure that the water supply to the processor is shut off for this procedure.

**[1]** Disconnect the 2 TERMINALS. See Figure 5-25.

**[2]** Loosen the 2 HOSE CLAMPS.

**[3]** Remove the 2 HOSES.

**NOTE**

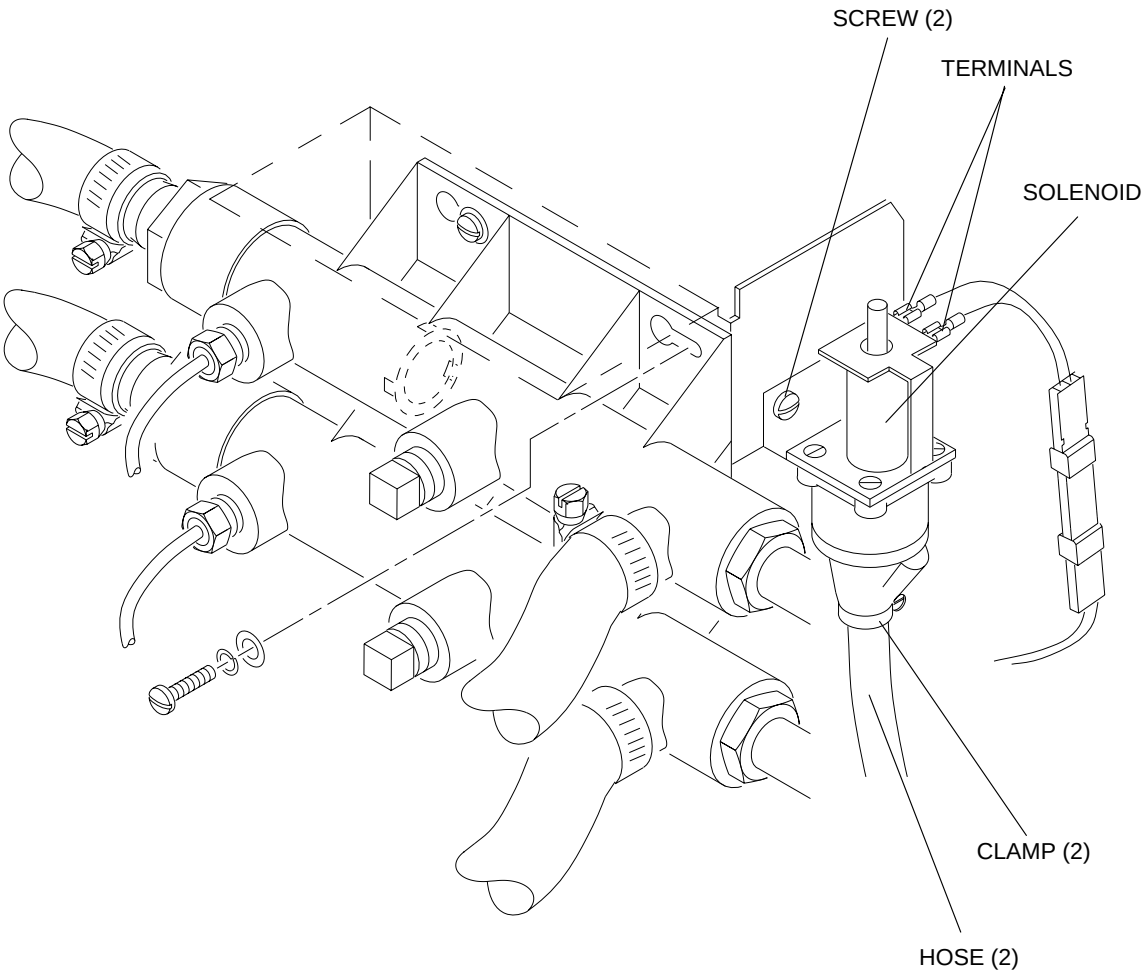
As you remove these HOSES, place a MARK on each HOSE so that you can identify them for reassembly.

**[4]** Remove the 2 SCREWS.

**[5]** Remove the WASH SOLENOID from the processor.

**[6]** Install the new WASH SOLENOID.

**[7]** Install all parts removed in previous steps and make the necessary connections.

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H108_0152DA

**Figure 5-25 Disconnecting Terminals**

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# SECTION 6
# Electrical

**IMPORTANT**

All the procedures in this section require that you deenergize the processor before beginning the first step of the service procedure; and many of the procedures require that you remove the TOP COVER, and the ACCESS PANELS from the processor before beginning the procedure. For more information about how to deenergize the processor, see page 1-6. For more information about how to remove the processor's ACCESS PANELS, see pages 1-3 through 1-5.

Use caution to prevent damage from electrostatic discharge.

## Adjusting the Film Feed Signal

**NOTE**

The adjustment for the loudness of the FILM FEED SIGNAL is controlled by the R44 POTENTIOMETER on the 5600 CIRCUIT BOARD. The location for the adjustment is above the FEED TRAY.

**[1]** To adjust the loudness of the FILM FEED SIGNAL, rotate the R44 POTENTIOMETER using a POTENTIOMETER ALIGNMENT TOOL. Rotate the R44 POTENTIOMETER clockwise to make the signal louder and counterclockwise to make the signal quieter.

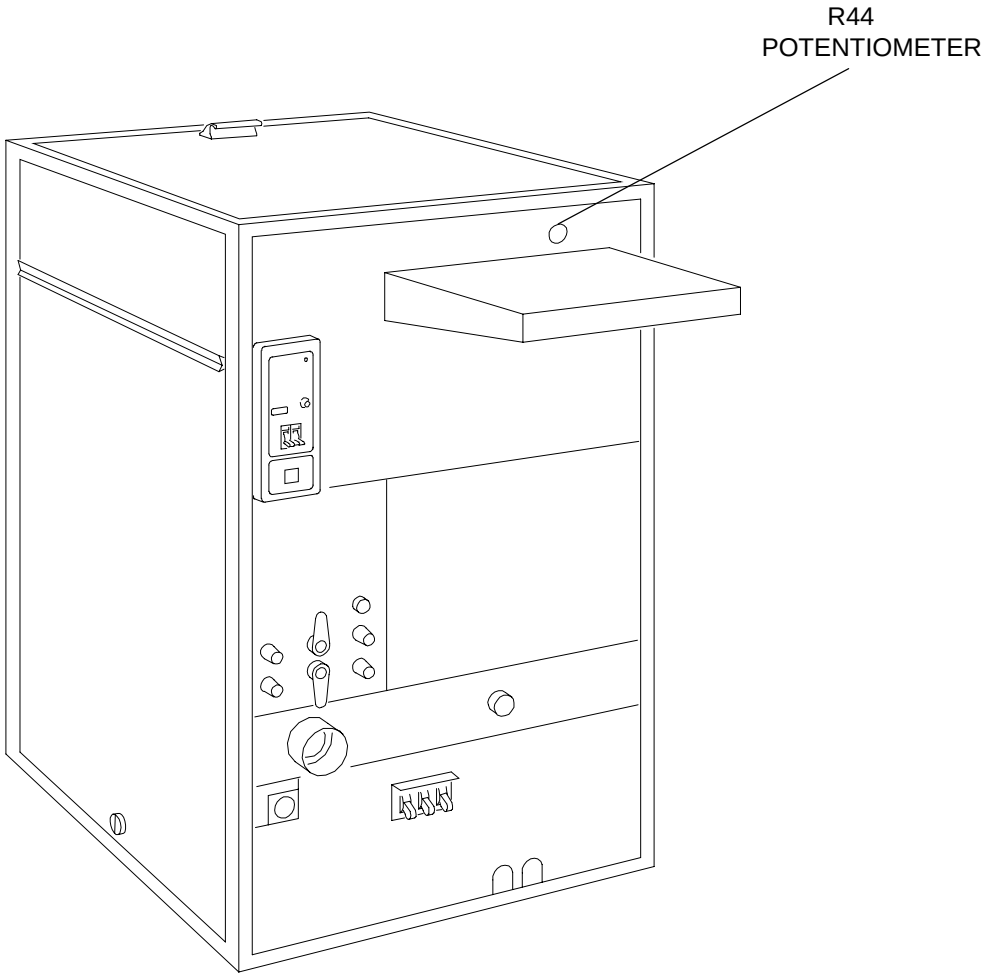


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**Figure 6-1 Adjusting Loudness**

### Adjusting the Entrance Detector Switch

The following procedure does not apply if you have a MULTILOADER or an AUTOMATIC FILM FEEDER. Call Service Support if you need another version of this adjustment procedure.

**NOTE**

Do this adjustment when the REPLENISHER PUMPS malfunction.

**IMPORTANT**

For this procedure the processor must be energized, and the TOP COVER and DRIVE SIDE ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-6.

**[1]** Make sure that the processor is energized. The MAIN CIRCUIT BREAKER, CB1, should be in the ''I'' position.

**[2]** Set the processor to the Standard Cycle. See the Operator Manual.

**[3]** Make a FILM TOOL. Use the following specifications:

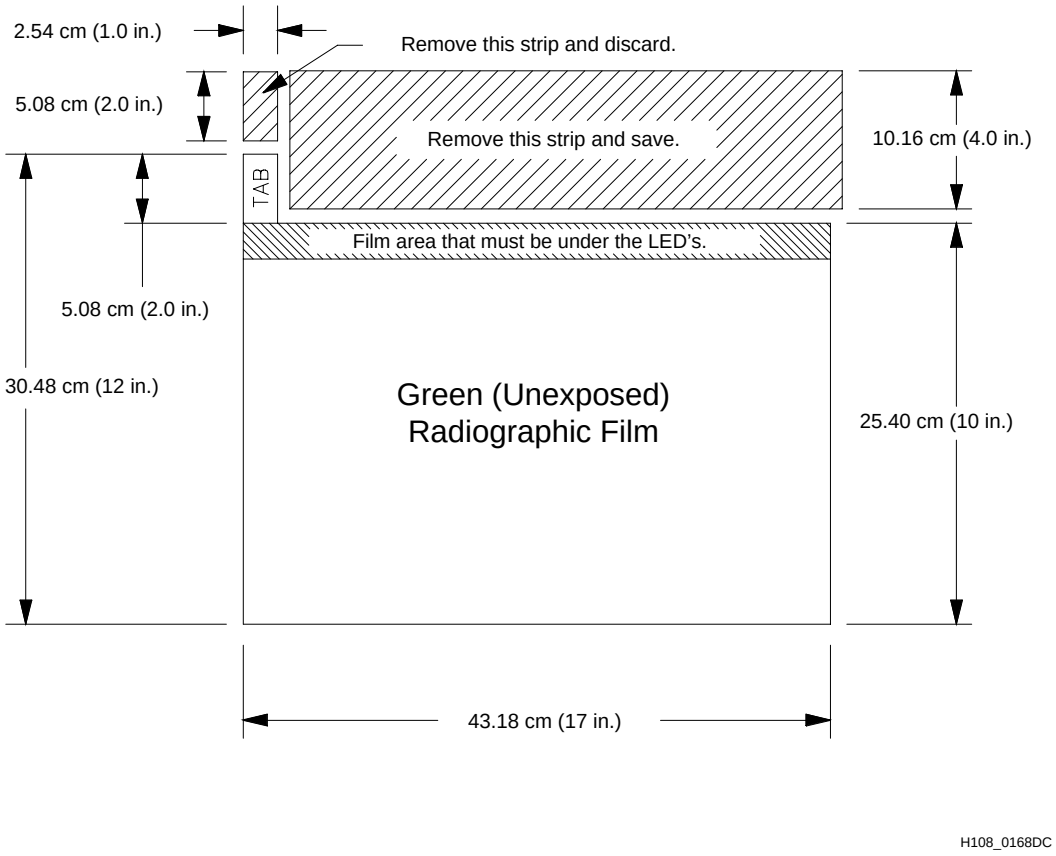



**Figure 6-2 Making a Film Tool**

**[4]** Disconnect CONNECTOR J29.

**[5]** Install a JUMPER, TL-4413, into CONNECTOR J29.

**[6]** Loosen the 2 SCREWS and adjust the DRIVE SIDE SWITCH PLATE ASSEMBLY to the MAXIMUM UP POSITION to ensure that the SWITCH does not actuate during this adjustment procedure.

**[7]** Hold the NON-DRIVE SIDE MAGNET SWING ARM to prevent movement.

**NOTE**

If necessary, install a RESTRAINER.

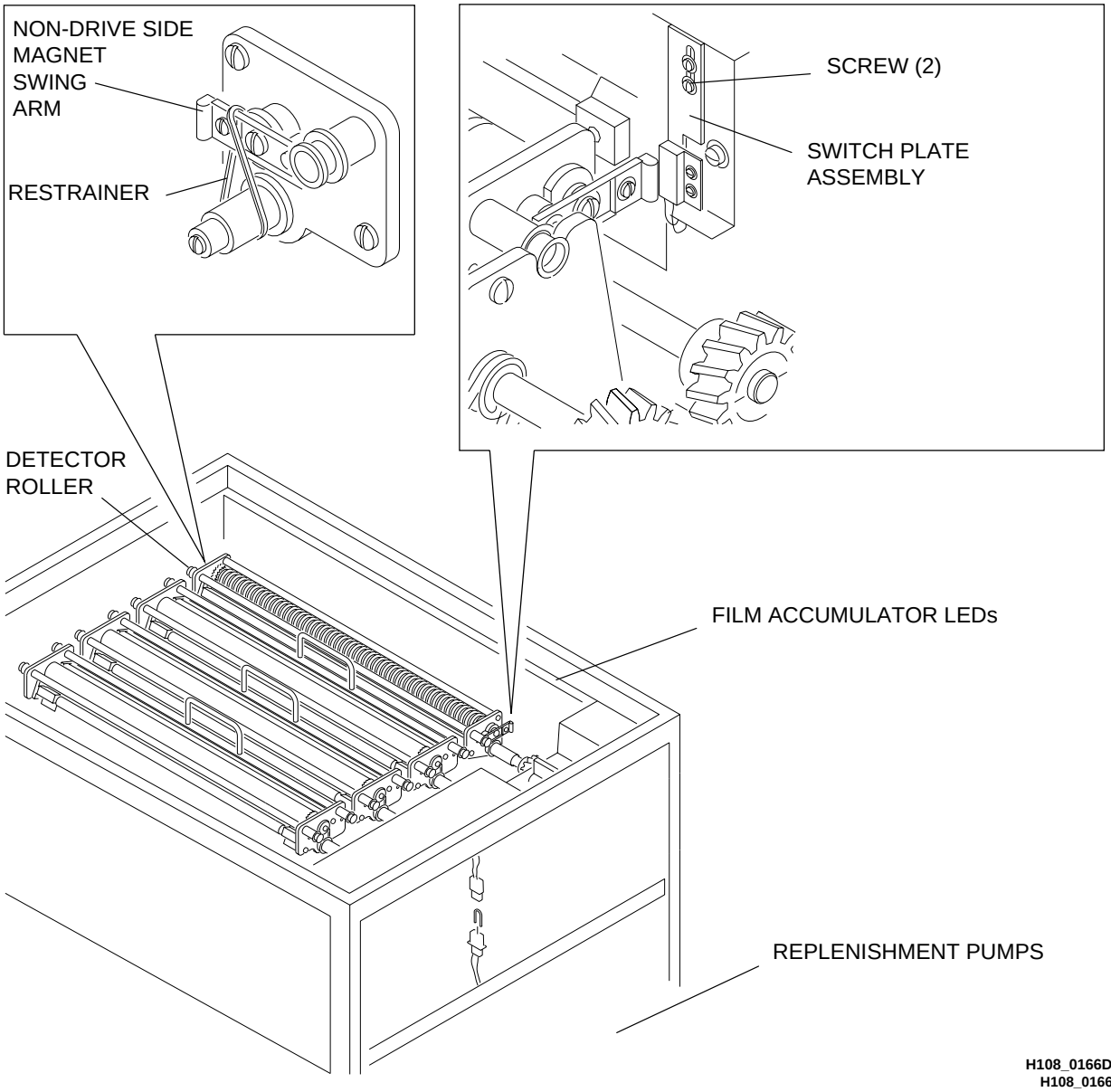



**Figure 6-3 Adjusting the Switch Plate Assembly**

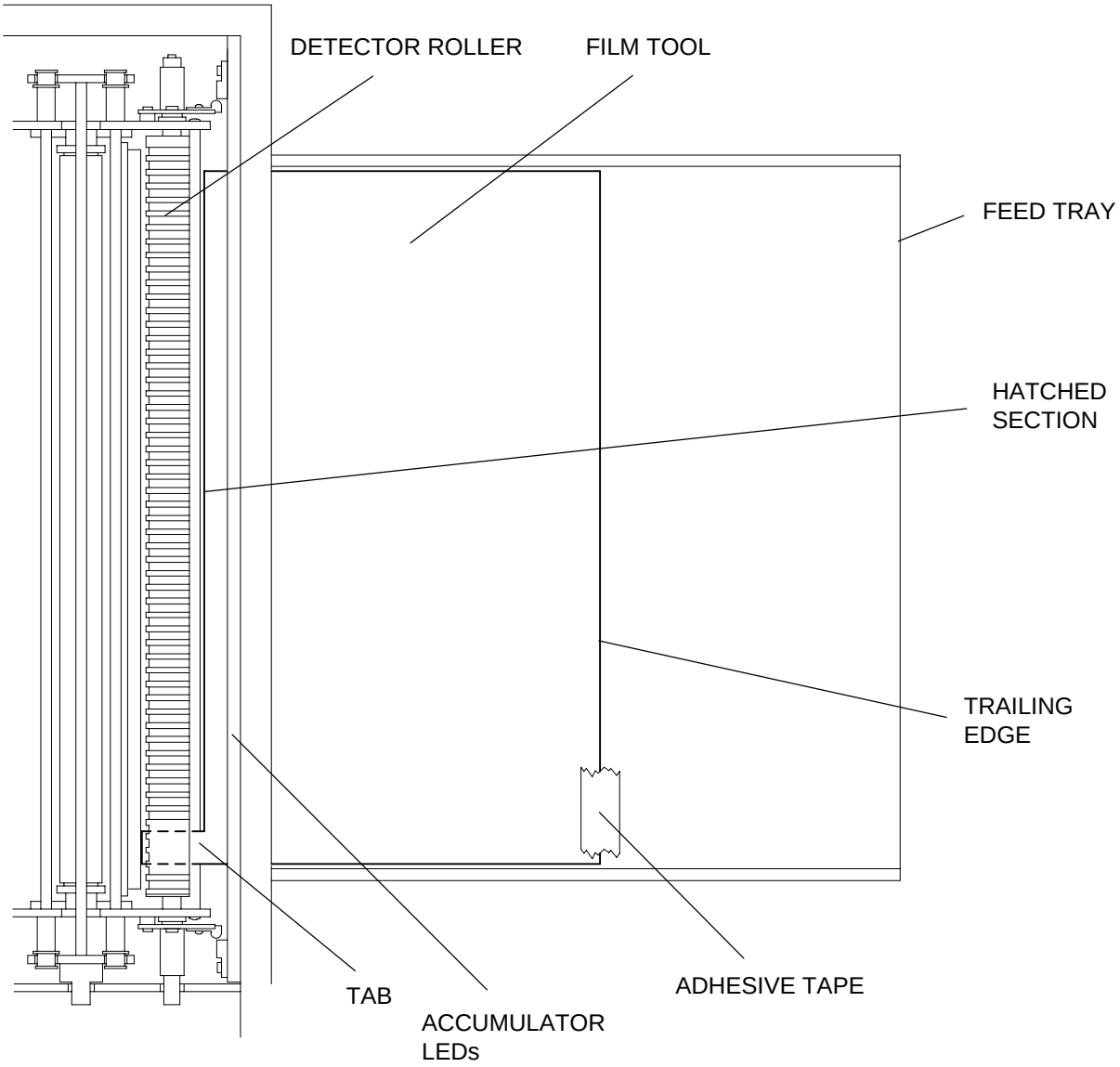
**[8]** Place the FILM TOOL on the FEED TRAY with the FILM TAB on the drive side of the processor.

**CAUTION**

Do not allow the FILM TOOL to enter completely into the DETECTOR ROLLERS during the next step.

**[9]** Carefully guide the FILM TOOL until the TAB is between the DETECTOR ROLLERS and the HATCHED SECTION of the FILM TOOL is under the ACCUMULATOR LEDs.

**[10]** Fasten the TRAILING EDGE of the FILM TOOL to the FEED TRAY with adhesive tape.

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H108_0169DC

**Figure 6-4 Using the Film Tool**

**[11]** Adjust the SWITCH PLATE ASSEMBLY:

**(a)** Loosen the 2 SCREWS.

**(b)** Move the SWITCH PLATE ASSEMBLY down, approximately 2.5 mm (0.100 in.).

**(c)** Wait 12 seconds.

**(d)** If the REPLENISHER PUMPS begin operating, tighten the 2 SCREWS and continue with Step 12.

**(e)** If the REPLENISHER PUMPS do not begin operating, repeat Step 11.

**[12]** Remove the adhesive tape and pull the FILM TOOL away from the DETECTOR ROLLERS. The REPLENISHER PUMPS will stop.

**NOTE**

The time required to stop the REPLENISHMENT PUMPS corresponds with the amount of time the FILM TOOL remained under the ACCUMULATOR LEDs.

**[13]** Release the NON-DRIVE SIDE MAGNET SWING ARM.

**[14]** Repeat Steps 6-13 to adjust the NON-DRIVE SIDE ENTRANCE DETECTOR SWITCH.

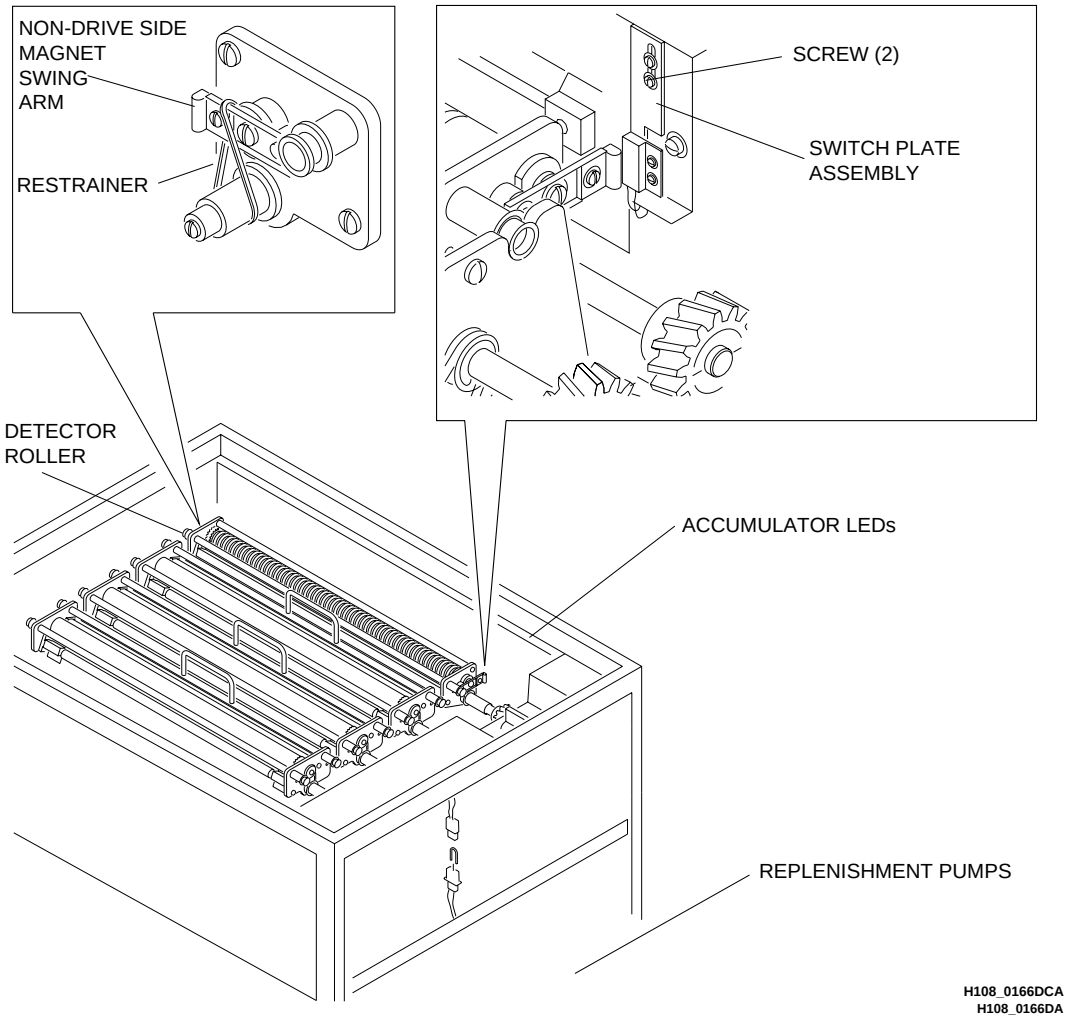


**Figure 6-5 Adjusting the Switch Plate Assembly**

**CAUTION**

Do not place the FILM TOOL under the DETECTOR ROLLERS during the next step.

**[15]** Check for proper ENTRANCE DETECTOR SWITCH adjustment:

**(a)** Insert the 43.18 cm (17 in.) end of the FILM TOOL into the ACCUMULATOR.

**(b)** If the REPLENISHER PUMPS begin operating after approximately 12 seconds, one or both of the ENTRANCE DETECTOR SWITCHES is not adjusted properly. Repeat Steps 8-15 of the adjustment procedure.

**(c)** If the REPLENISHER PUMPS do not begin operating, guide the 4-inch FILM STIP, cut from the FILM TOOL, into the center of the DETECTOR ROLLERS and allow it to pass through the processor 3 times. The REPLENISHER PUMPS should begin operating during the third entry.

**(d)** If the REPLENISHER PUMPS do not begin operating during the third entry, repeat Steps 8-15 of the adjustment procedure.

**[16]** Set the processor to the previous cycle.

**[17]** Remove the JUMPER and connect CONNECTOR J29.

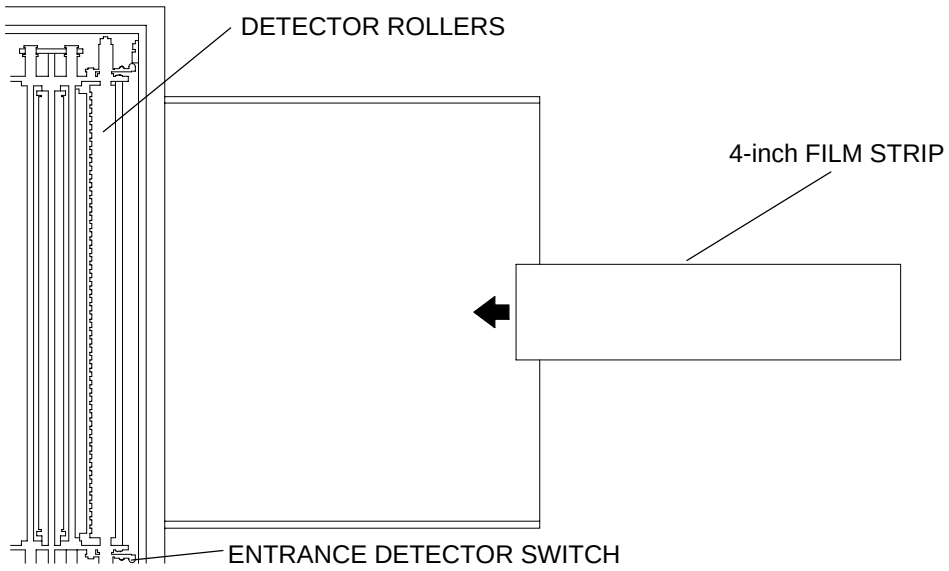


**Figure 6-6 Guiding the Film Strip into the Detector Rollers**

**Adjusting the Brightness for the 200 Circuit Board Display (Control Panel)**

**CAUTION**

The 200 CIRCUIT BOARD DISPLAY (CONTROL PANEL) is located on the side of the processor which is in the darkroom. Therefore, to prevent fogging of the film, be sure that the brightness of the display is no brighter than is necessary to read the display.

**[1]** Insert a POTENTIOMETER ALIGNMENT TOOL through the ACCESS HOLE in the 200 CIRCUIT BOARD COVER and into the POTENTIOMETER.

**[2]** Rotate the POTENTIOMETER clockwise to brighten the display. Rotate the POTENTIOMETER counterclockwise to dim the display.

**[3]** Move the darkroom light switch to the ‘‘OFF’’ position.

**[4]** Adjust the POTENTIOMETER until the brightness of the display is no brighter than is necessary for you to read the indicators shown, yet it is not bright enough to fog film.

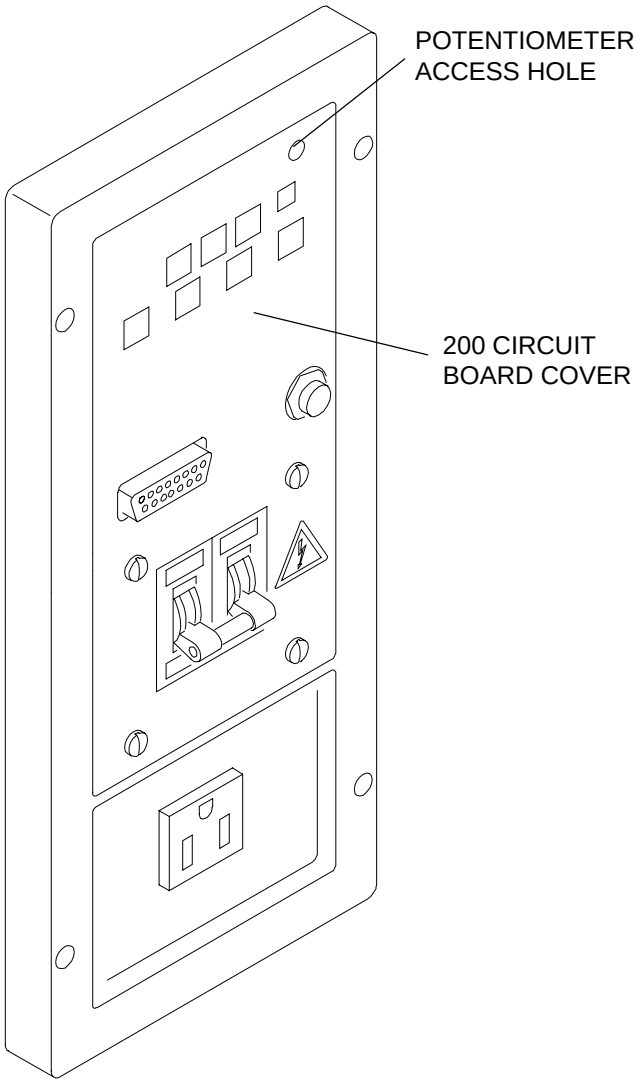


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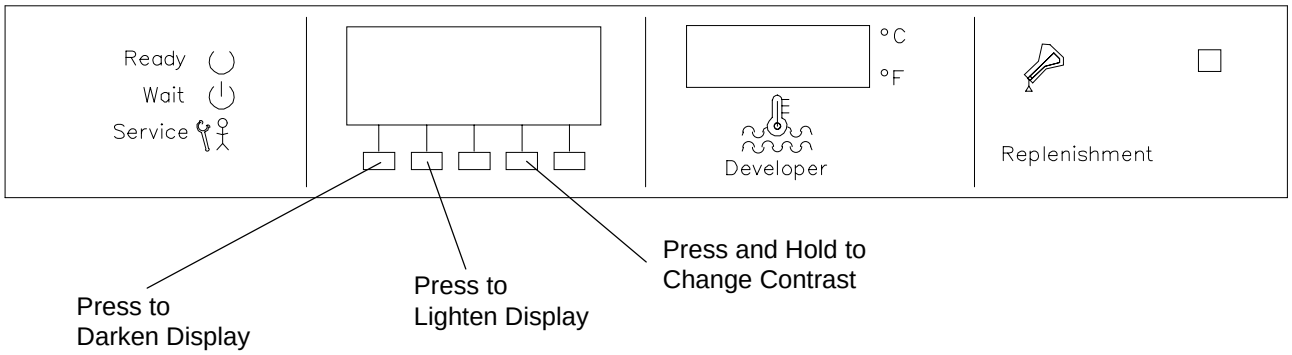
**Figure 6-7 Adjusting the Brightness of the 200 Board Display**

**Adjusting the Contrast of the 300 Circuit Board Display (Display Panel)**

**[1]** To darken the display, press and hold the fourth SOFT KEY on the DISPLAY PANEL. At the same time, press the first SOFT KEY on the DISPLAY PANEL as necessary to obtain the desired contrast.

**[2]** To lighten the display, press and hold the fourth SOFT KEY on the DISPLAY PANEL. At the same time, press the second SOFT KEY on the DISPLAY PANEL as necessary to obtain the desired contrast.

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H104_0080BA

**Figure 6-8 Adjusting the Brightness of the 300 Board Display**

## Removing the Buck/Boost Transformer

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END, LOWER ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**NOTE**

When installing a new BUCK/BOOST TRANSFORMER, see the Installation Instructions for the correct configuration of the JUMPER WIRES.

**CAUTION**

Before doing this procedure, make sure that the MAIN CIRCUIT BREAKER, CB1; AUXILIARY CIRCUIT BREAKERS, CB2, CB3, and CB4; and the WALL POWER SWITCH are in the ‘‘O’’ or ‘‘OFF’’ position.

**[1]** Disconnect WIRES X1 — X4 and WIRES H1 — H5 on TB2. Place a MARK on each of the 8 WIRES as you disconnect it from the TRANSFORMER so that you can connect it correctly on the new TRANSFORMER.

**CAUTION**

The TRANSFORMER is heavy. Make sure that the TRANSFORMER is supported before you remove the 4 SCREWS.

**[2]** Remove the 4 SCREWS to remove the TRANSFORMER from the TRANSFORMER BOX.

**[3]** Reverse the above procedure to install a new TRANSFORMER.

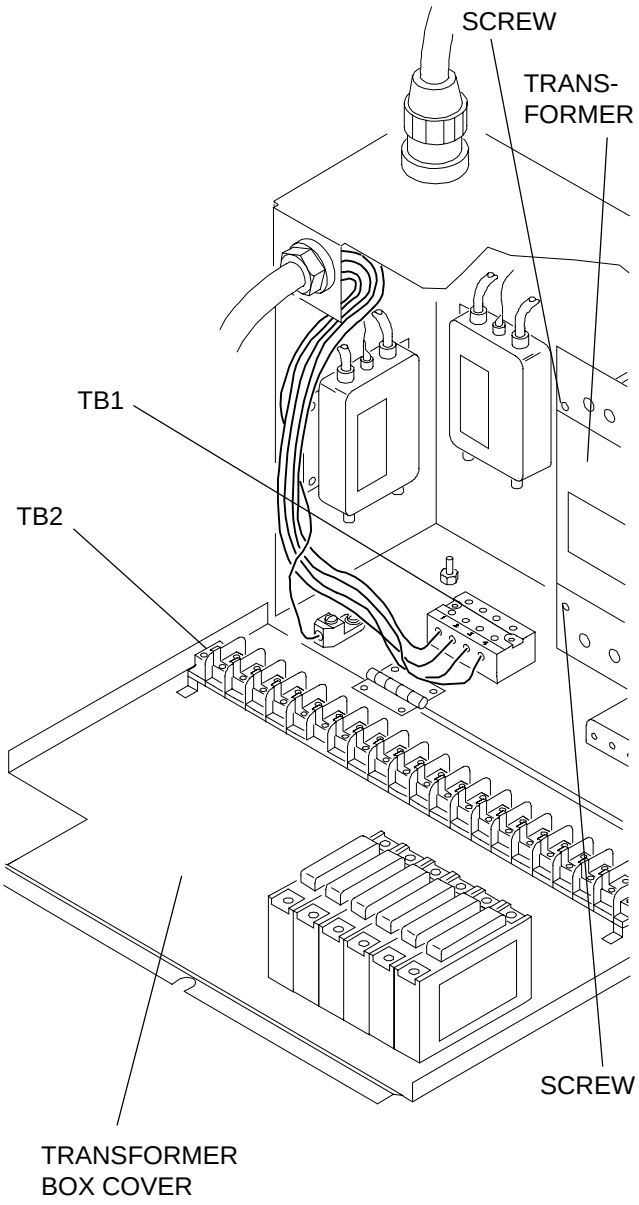


**Figure 6-9 Removing the Buck/Booster Transformer**

**Removing an EMI Line Filter**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END, LOWER ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the WIRES at the EMI LINE FILTER 1, 2, 3, or 4. See the figure. (EMI LINE FILTER is not shown.)

**NOTE**

Identify line and load labeling so that you can connect the WIRES to the new EMI LINE FILTER in their correct orientation.

**[2]** Remove and keep the 4 SCREWS securing the EMI LINE FILTER.

**[3]** Remove the EMI LINE FILTER.

**[4]** Reverse the above procedure to install a new EMI LINE FILTER.

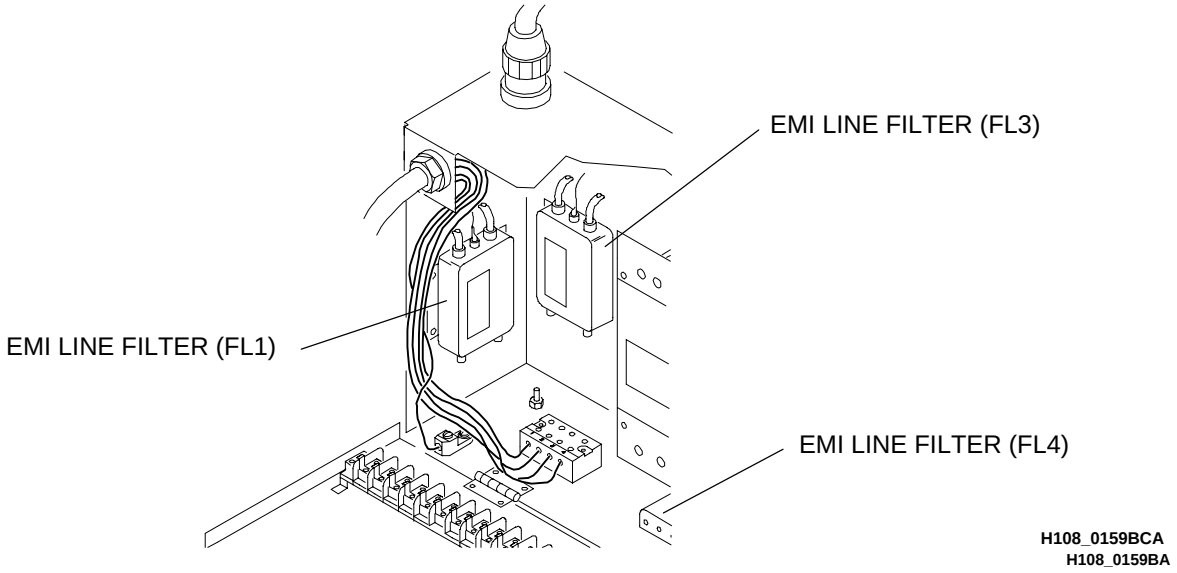


**Figure 6-10 Removing EMI Line Filters**

**Removing the Quad Power Supply**

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the FEED-END, LOWER ACCESS PANEL and the RECEIVING-END ACCESS PANEL must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**CAUTION**

Use caution to prevent damage from electrostatic discharge.

**[1]** Open the ELECTRICAL BOX COVER.

**[2]** Disconnect CONNECTORS P/J 110 and P/J 210 from the A1 QUAD POWER SUPPLY.

**[3]** Remove the 4 SCREWS supporting the A1 QUAD POWER SUPPLY.

**[4]** Remove the 4 SCREWS from the back of the ELECTRICAL BOX that secure the HEAT SINK.

**[5]** Remove the A1 QUAD POWER SUPPLY.

**[6]** Apply HEAT SINK COMPOUND to the back of the HEAT SINK on the new A1 QUAD POWER SUPPLY.

**[7]** Reverse the above procedure to install a new A1 QUAD POWER SUPPLY.

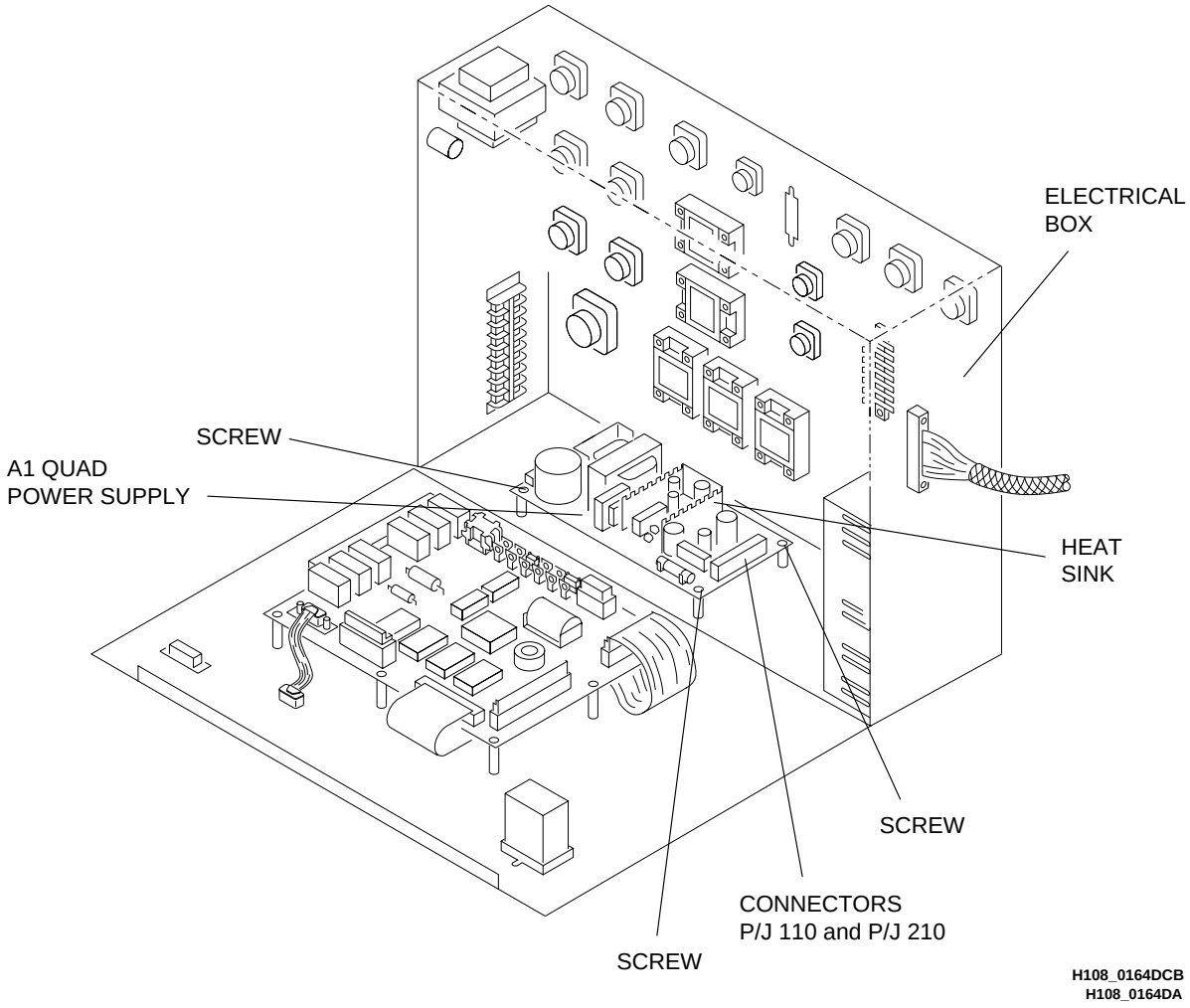


**Figure 6-11 Removing the Quad Power Supply**

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# SECTION 7
# Preventive Maintenance

**IMPORTANT**

All the procedures in this section require that you deenergize the processor before beginning the first step of the service procedure; and many of the procedures require that you remove the TOP COVER, and the ACCESS PANELS from the processor before beginning the procedure. For more information about how to deenergize the processor, see page 1-6. For more information about how to remove the processor's ACCESS PANELS, see pages 1-3 through 1-5.

**Daily Care**

Reliable operation of the processor requires that all parts are cleaned, adjusted, and lubricated correctly.

**NOTE**

Report any change in the operating condition of the processor to your service personnel.

**WARNING**

Wear rubber gloves, safety glasses, and protective clothing when doing these maintenance procedures. See pages 1-3 through 1-6 if necessary.

**CAUTION**

Handle assemblies carefully to prevent changing their alignment. **Do not** clean the RACKS, CROSSOVER ASSEMBLIES, or SQUEEGEE ROLLERS using abrasive materials. **Do not** wash the ROLLER or RACK ASSEMBLIES with water hotter than 100°F (37.5°C).

**[1]** Remove the EVAPORATION COVERS, DEVELOPER/FIXER CROSSOVER, FIXER/WASH CROSSOVER, and SQUEEGEE ASSEMBLIES. Clean the parts with warm water and a damp cloth. Dry all the parts with a clean cloth.

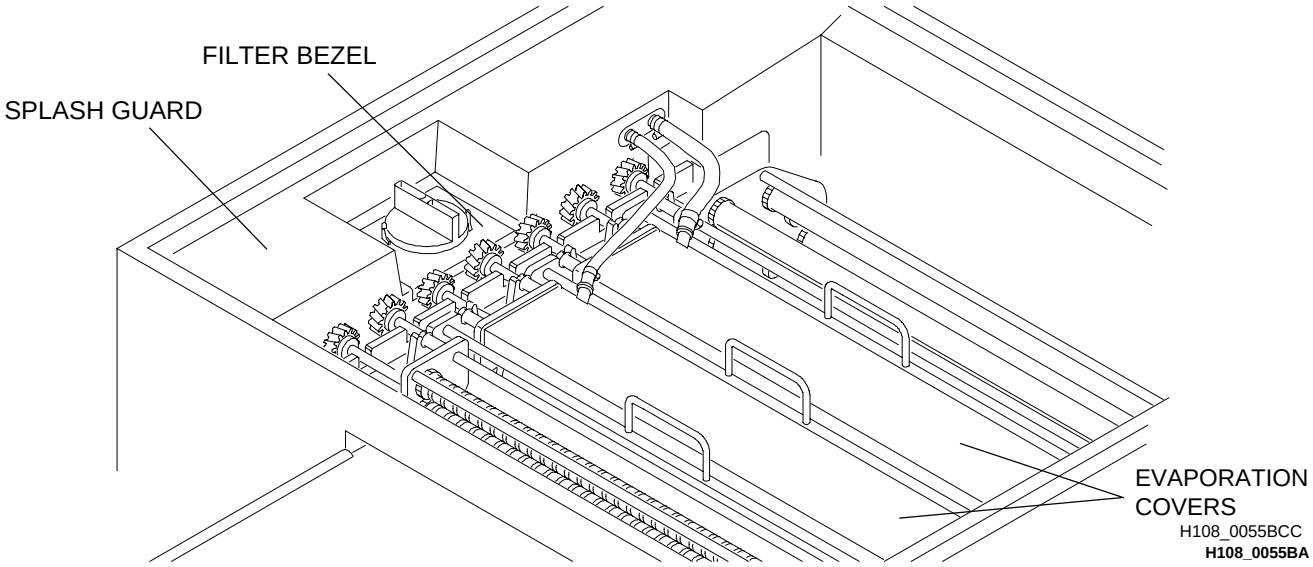


**Figure 7-1 Location of Assemblies**

**[2]** Use a clean cloth to wipe all chemical residue from the processing section of the processor. To prevent contamination, do not use the same cloth for the FIXER and DEVELOPER sections.

**[3]** Be sure that the TOP COVER remains open approximately 2 inches (5.1 cm) when the processor is deenergized.

### Weekly Cleaning and Check Procedures

**IMPORTANT**

For these procedures the processor must be deenergized. See page 1-6 if necessary.

**CAUTION**

To prevent contamination of the DEVELOPER and FIXER SOLUTIONS when you remove the FIXER RACK, place the SPLASH GUARD between the DEVELOPER and FIXER TANKS. Use the RACK DRIP TRAY when you remove or install any of the RACKS.

**[1]** Remove the EVAPORATION COVERS, all CROSSOVER ASSEMBLIES, and all RACKS.

**[2]** Rinse and wipe the removed parts with a damp cloth.

**[3]** Clean the DETECTOR CROSSOVER with a soft fiber brush and warm water. Allow the RACK to air dry.

**[4]** Check that all ROLLERS on all RACKS rotate freely.

**CAUTION**

Be sure that the SPLASH GUARD is installed between the TANKS. Install the RACKS slowly to prevent the splashing of chemicals.

**[5]** Install the RACKS, CROSSOVER ASSEMBLIES, and EVAPORATION COVERS. Check that each assembly seats firmly.

**[6]** Clean the REPLENISHER STRAINERS located between the REPLENISHMENT TANKS and the PUMPS.

**[7]** Check that the SLOTS in the DRYER AIR TUBES are clean and oriented correctly.

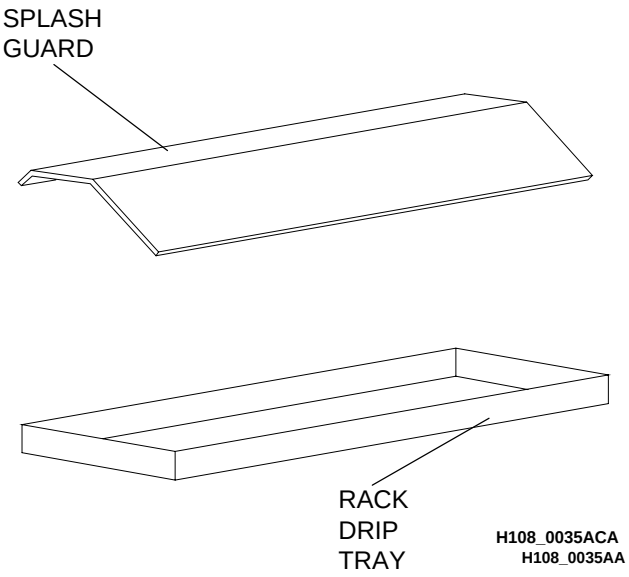


**Figure 7-2 Splash Guard and Drip Tray**

**IMPORTANT**

For these procedures the processor must be deenergized. See page 1-6 if necessary.

**[1]** Once a month, or after processing 5,000 sheets of film, calibrate the REPLENISHER PUMPS. See section ''Calibration of the Replenishment System'' in the Operator Manual.

**[2]** Check that the MAIN DRIVE CHAIN is lubricated.

- If the DRIVE CHAIN is dry, apply lubricant to the DRIVE CHAIN. Use NLG1-No. 2 Lithium Ball and Roller Bearing Grease TL-2324.
- If the DRIVE CHAIN is rusty, remove it and install a new one.
  - Wipe the ENTRANCE SLOT of the 5600 BOARD ASSEMBLY with a damp cloth.

## Cleaning Rollers, Racks, Crossovers, and Tanks

**WARNING**

Mix the *Kodak* System Cleaner as directed. Wear rubber gloves, safety glasses, and protective clothing.

**CAUTION**

**Do not** place the RACKS or CROSSOVER ASSEMBLIES in *Kodak* System Cleaner.

**[1]** Once every 3 months, or as experience indicates, clean the DEVELOPER RACK ROLLERS and DEVELOPER TANK using *Kodak* Developer System Cleaner and a synthetic sponge. To access the inner ROLLERS on the RACK, you must remove all of the outer ROLLERS except for the bottom one. To remove the outer ROLLERS, you must first remove the STUDS from the drive side of the RACK.

**[2]** Clean the FIXER RACK and FIXER TANK with *Kodak* Fixer/Wash System Cleaner.

**[3]** Clean the WASH RACK with *Kodak* Fixer/Wash System Cleaner or a mild solution of chlorine bleach if bacterial growth exists. Use 2 fluid ounces (60 mL) of bleach for every 1 gallon (3.8 L) of water.

**CAUTION**

To prevent chemical contamination, rinse ROLLERS thoroughly with warm water to remove all the System Cleaner.

**[4]** Rinse all ROLLERS and RACKS thoroughly with warm water to remove all of the System Cleaner.

**[5]** Remove, clean, and install the LEVEL SENSING PROBES.

**[6]** Open all the DRAIN VALVES on the FEED END of the processor.

**[7]** Using a HOSE, thoroughly rinse the inside of the processor TANKS with water.

**[8]** Close all the DRAIN VALVES.

**[9]** Install all the RACKS.

**[10]** Fill the REPLENISHMENT TANKS with clean water.

**[11]** Energize the processor by moving the MAIN CIRCUIT BREAKER, CB1, to the ''I'' position.

**[12]** Using the DISPLAY PANEL, select ''Tank Fill.'' For more instructions about selecting menu options on the control panel, see the Operator Manual. The tanks will fill automatically.

**[13]** Allow the recirculation and transport cycles to complete their cycles.

**[14]** Open all the DRAIN VALVES and drain the TANKS.

**[15]** Repeat the previous 3 steps to be sure that all the System Cleaner is removed.

**[16]** Deenergize the processor by moving the MAIN CIRCUIT BREAKER, CB1, to the ''O'' position.

**[17]** Clean any debris from the DRYER AIR TUBES and ROLLERS by rinsing them with warm water.

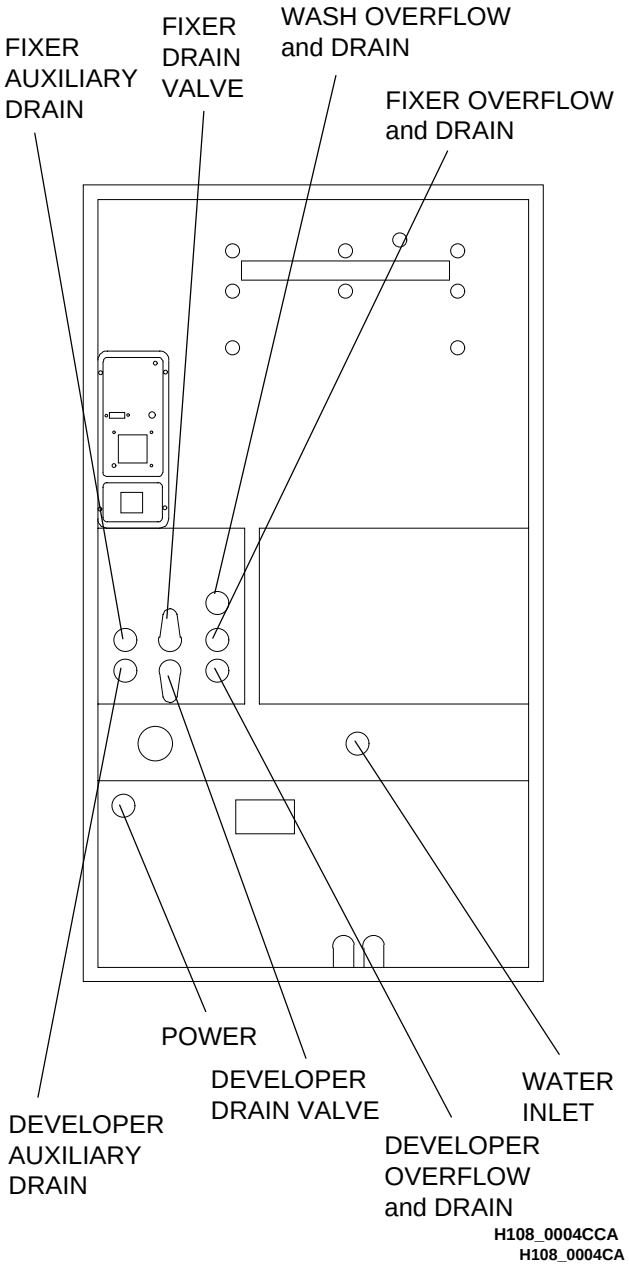


**Figure 7-3 Opening the Developer Drain Valve**

## Removing and Cleaning the Developer Heat Exchanger Cover

**IMPORTANT**

For this procedure the processor must be deenergized, and the TOP COVER must be removed from the processor. See pages 1-3 through 1-6 for instructions, if necessary. In addition, the water supply to the processor must be shut off for this procedure.

**[1]** Remove the DETECTOR CROSSOVER ASSEMBLY and the DEVELOPER/FIXER CROSSOVER.

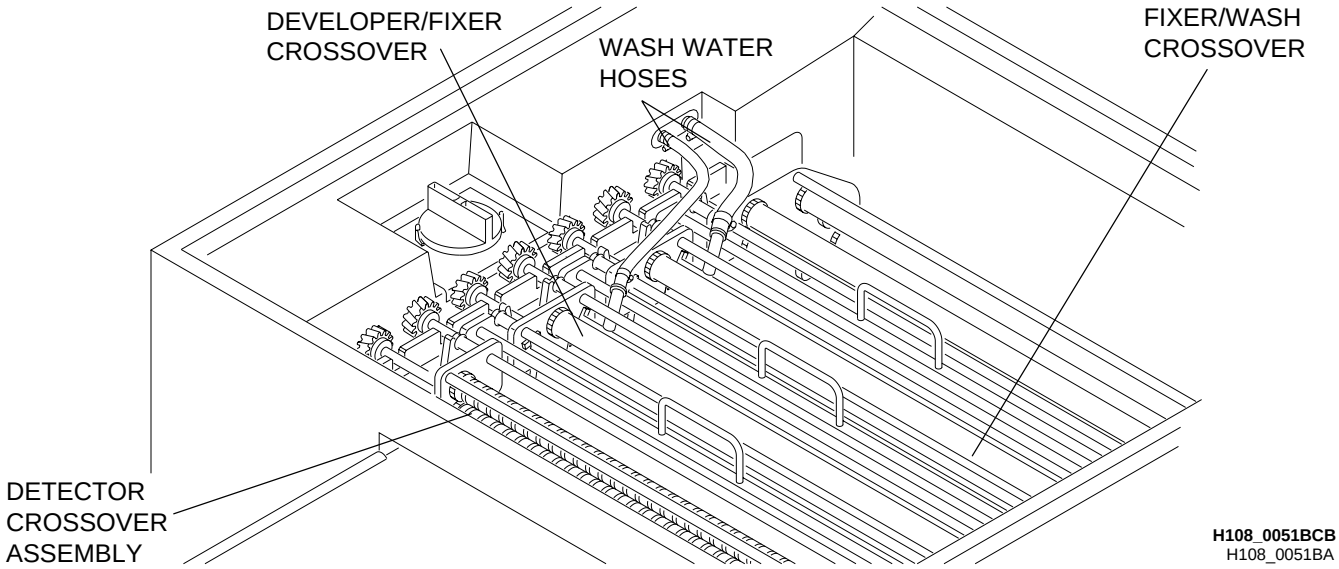


**Figure 7-4 Removing Crossovers**

**[2]** Remove the DEVELOPER RACK. Use the RACK DRIP TRAY to prevent contamination of the other solutions.

**[3]** Drain the DEVELOPER TANK by opening the DEVELOPER DRAIN VALVE on the FEED END of the processor.

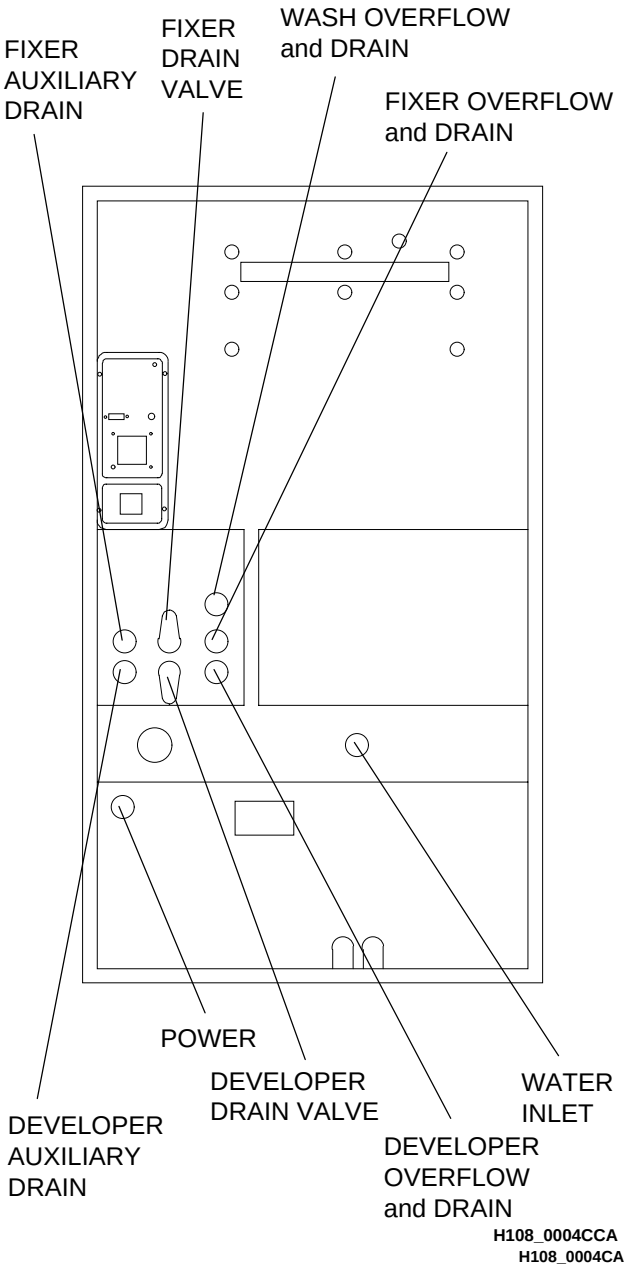


**Figure 7-5 Opening the Developer Drain Valve**

**[4]** Remove the DEVELOPER HEAT EXCHANGER COVER from the bottom of the DEVELOPER TANK.

**[5]** Wash the DEVELOPER HEAT EXCHANGER COVER with developer system cleaner.

**[6]** Rinse the DEVELOPER HEAT EXCHANGER COVER thoroughly with water to remove all of the developer system cleaner.

**[7]** Install the DEVELOPER HEAT EXCHANGER COVER into the bottom of the DEVELOPER TANK.

**[8]** Install all parts removed in previous steps.

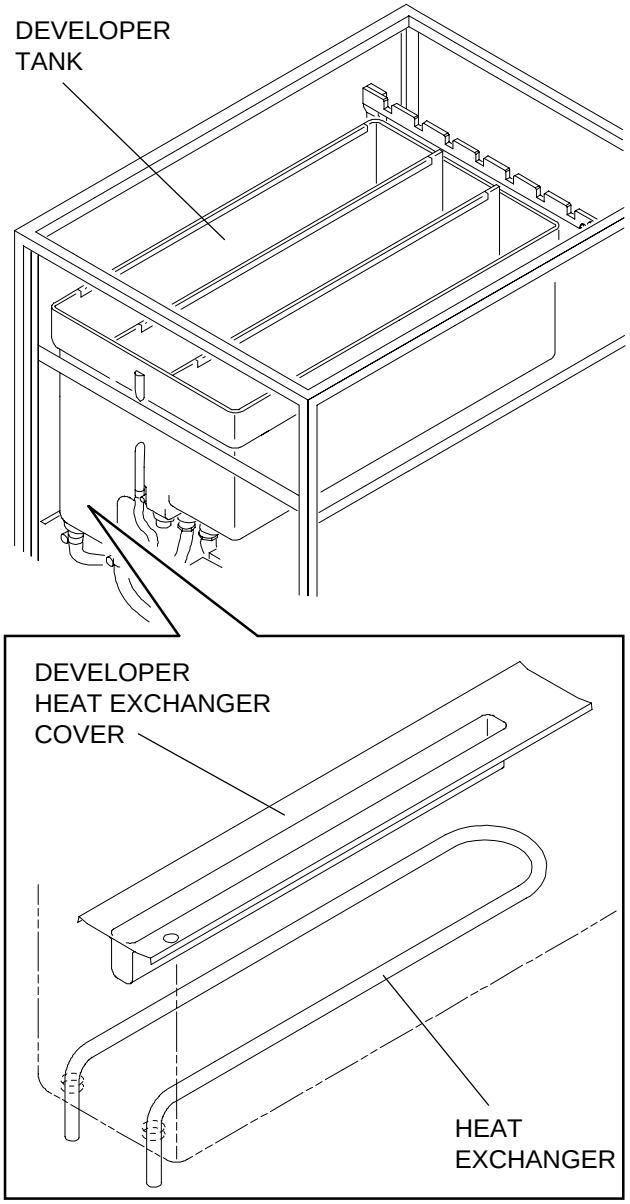


**Figure 7-6 Removing the Developer Heat Exchanger Cover**

## Removing the Developer Filter

**IMPORTANT**

For this procedure the processor must be deenergized. See page 1-6. In addition, the TOP COVER must be removed from the processor. See pages 1-3 through 1-5 for instructions, if necessary.

**[1]** Remove the FILTER CAP.

**[2]** Remove and discard the DEVELOPER FILTER.

**[3]** Install the new DEVELOPER FILTER.

**[4]** Install and tighten the FILTER CAP.

**[5]** Energize the processor.

**[6]** Check the FILTER CANISTER for leaks.

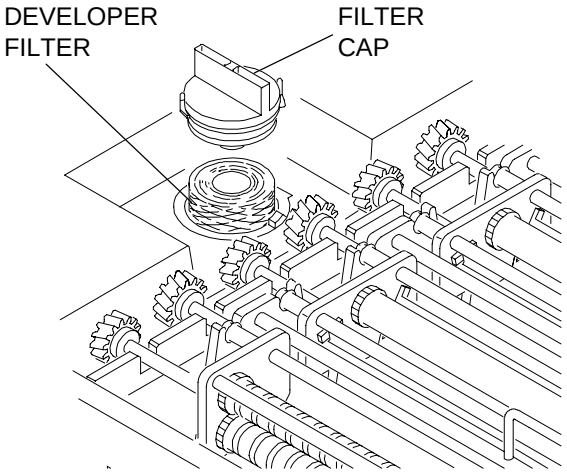


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**Figure 7-7 Removing the Developer Cap and Filter**

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